DOCUMENT RESUME

ED 329 086 EC 300 082

AUTHOR Thurlow, Martha L.; And Others
TITLE Post-School Occupational and Social Status of Persons with Moderate, Severe, and Profound Mental Retardation. Project Report No. 89-3.
INSTITUTION Minnesota Univ., Minneapolis. Inst. on Community Integration.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC.
PUB DATE May 89
CONTRACT G008630478
NOTE 66p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Adaptive Behavior (of Disabled); Age Differences; Behavior Problems; Daily Living Skills; Day Programs; Employment Level; Graduate Surveys; *High School Graduates; High Schools; Individualized Education Programs; Job Search Methods; Leisure Time; *Mental Retardation; Place of Residence; *Sex Differences; Social Adjustment; Social Life; *Social Status; Social Support Groups; Special Schools; *Vocational Adjustment; Vocational Education
IDENTIFIERS *Impairment Severity

ABSTRACT

The occupational and social status of 106 former students with mental retardation was examined from 1 to 5 years after they graduated from or completed schooling in a special high school during the years 1982 to 1986. Results were compiled as a function of the former students' level of mental retardation, gender, and age. The study involved interviews, administration of the Inventory for Client and Agency Planning instrument, and examination of school records. Results are analyzed in terms of: community adjustment; vocational emphasis in individualized education programs; curricular areas of study; work characteristics (job characteristics, earnings, securing employment, job satisfaction); unemployment information; high school employment; job seeking skills; day programs, including satisfaction and assistance in finding day programs; living arrangements; social networks (family relationships, friendships, interpersonal networks); leisure activities; citizenship; support programs; living skills (shopping, paying bills, banking, transportation, telephone use); adaptive behavior; functional limitations; problem behaviors; and service levels. Significant differences in outcomes were found as a function of level of mental retardation, but no difference as a function of gender. Age differences were questionable because of confounding with other variables. For the suburban sample overall, outcomes were quite positive, with over 70% of the sample employed. (37 references) (JDD)

ED329086

Institute on Community Integration
University of Minnesota

Post-School Occupational and Social Status of Persons with Moderate, Severe, and Profound Mental Retardation

Martha L. Thurlow, Robert H. Bruininks,
Clara Wolman, and Kathy Steffens

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Project Report Number 89-3

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Robert Bruininks

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC 300082

A University Affiliated Program on Developmental Disabilities

POST-SCHOOL OCCUPATIONAL AND SOCIAL STATUS OF PERSONS WITH MODERATE, SEVERE, AND PROFOUND MENTAL RETARDATION

Martha L. Thurlow, Robert H. Bruininks, Clara Wolman, and Kathy Steffens

May, 1989

Institute on Community Integration
University of Minnesota
6 Pattee Hall
150 Pillsbury Drive SE
Minneapolis, MN 55455

ACKNOWLEDGMENTS

Appreciation is extended to the many individuals who cooperated in this research effort, particularly the participating school district, its administrators, staff, and students. Special thanks are extended to Sandy Thompson for her efforts in this project.

The development of this report was supported by Grant #G008630478 from the U.S. Department of Education, Office of Special Education and Rehabilitative Services. Points of view or opinions stated in this report do not necessarily reflect the official position of the funding agency.

The recommended citation for this report is: Thurlow, M. L., Bruininks, R. H., Wolman, C., & Steffens, K. (1989). Post-School occupational and social status of persons with moderate, severe, and profound mental retardation (Project Report No. 89-3). Minneapolis: University of Minnesota, Institute on Community Integration.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, disability, age, veteran status, or sexual orientation.

TABLE OF CONTENTS

Abstract v

Introduction 1

Method 2

- Subjects 2
- Instruments 2
- Procedure 4
- Response Rates 6
- Data Analysis 6

Results 6

- Dimensions of Community Adjustment 6
- School Records Information 9
- Current Daytime Activities 12
- Work Characteristics 12
- Other Employment Information 16
- Day Programs 20
- Living Arrangements 25
- Social Networks 28
- Leisure Activities 36
- Citizenship 40
- Support Programs 40
- Living Skills 40
- ICAP Results 44
- Comparisons 48

Discussion 52

References 56

LIST OF TABLES

Table 1:	Gender Distribution and Ages of Subjects	3
Table 2:	Respondents in Each Group	3
Table 3:	Interview Sections, Numbers of Items, and Study Variables	5
Table 4:	Composite Variables	7
Table 5:	Sample Description on Composite Variables	8
Table 6:	Aptitude Scores	10
Table 7:	Curricular Areas and Related Services Addressed in Final IEP and Hours Per Week for Each Area	10
Table 8:	People in Attendance at Final IEP Meeting	11
Table 9:	Current Activities	13
Table 10:	Job Characteristics	14
Table 11:	Earnings Information (Hourly Income) by Type of Job	15
Table 12:	How Job was Found	17
Table 13:	Tips, Bonuses, Raises, Promotions, and Job Satisfaction	18
Table 14:	Unemployment Information	19
Table 15:	High School Employment	21
Table 16:	Job Search	22
Table 17:	Day Program Attendance	23
Table 18:	Day Program Activities and Satisfaction	24
Table 19:	Finding Day Programs and Waiting Lists	26
Table 20:	Current Living Arrangements	27
Table 21:	Information About Residential Facilities	29
Table 22:	Family Relationships	30
Table 23:	Frequency of Contact with Relatives	31
Table 24:	Information on Friends	32

Table 25:	Personal Core Network	34
Table 26:	Summary of Core Network Characteristics	35
Table 27:	Leisure Activities	37
Table 28:	Why Subjects Are Unable to Do Some Activities	37
Table 29:	Activities in Which Subject Can Independently Participate	38
Table 30:	Activities that Subjects Initiated Participation With a Friend	38
Table 31:	Leisure Choices/Independence	39
Table 32:	Citizenship Characteristics	41
Table 33:	Frequency of Government Support Payments and Amenities	41
Table 34:	Use of Medicare, Medicaid and Food Stamps	42
Table 35:	Shopping, Paying Bills and Banking Skills	43
Table 36:	Transportation and Telephone Skills	45
Table 37:	Functional Limitations in Each Group	46
Table 38:	Adaptive Behavior Summary	47
Table 39:	Maladaptive Behavior Summary	49
Table 40:	ICAP Service Levels	49
Table 41:	Summary of Statistical Comparisons for Selected Variables	50

Abstract

The occupational and social status of 106 former students was examined from one to five years after they left school in a suburban school district. Results were compiled as a function of the former students' level of mental retardation, gender, and age. Analysis of a set of selected variables indicated significant differences in outcomes as a function of the former students' level of mental retardation, but no difference as a function of gender. Age differences were questionable because of confounding with other variables. For the suburban sample overall, outcomes were quite positive, with over 70% of the sample employed. However, the characteristics of the sample were also fairly good, suggesting the possibility of even more positive outcomes (such as fewer individuals in part-time employment and sheltered employment). Issues related to transition planning and needs for various types of support or assistance are discussed.

Post-School Occupational and Social Status of Persons with Moderate, Severe, and Profound Mental Retardation

Today, increasing numbers of students with moderate and severe mental retardation are provided with educational services designed to help them move beyond school to the world of work and adult living. The development of educational curricula and programs for these individuals has been based, for the most part, on local experiences and traditions, rather than on research findings.

It is now possible, however, to begin to look at some post-school outcomes for former students with mental retardation. Information obtained in the past about the transition of individuals with handicaps is variable in its usefulness. One reason, of course, is that much of it is outdated. The context of transition for individuals today is considerably different from what it was prior to 1975, and even later than that. Another reason is that most of the information that has been obtained since 1975 has been limited primarily to a focus on the occupational adjustment of former students with mild mental retardation (e.g., Fardig, Algozzine, Schwartz, Hensel, & Westling, 1985; Hasazi, Gordon, & Roe, 1985; Mithaug, Horiuchi, & Fanning, 1985; Semmel, Cosden, & Konopak, 1985; Wehman, Kregel, & Seyfarth, 1985).

Recent studies on the post-school status of students with moderate to severe handicaps have been relatively few in number (e.g., Edgar, 1987; Hasazi et al., 1985; Hawkins, 1984; Wehman et al., 1985). Historically, studies that have followed individuals with moderate to severe handicaps over time have focused on special training programs that are not school-based programs; many are special projects set up as models, with special funding for follow-up evaluation efforts (e.g., Cho & Schuerman, 1980; Hill & Wehman, 1983; Walls, Tseng, & Zarin, 1976). In addition, studies have varied in terms of the variables that have been investigated, with most of them focusing on occupational outcomes.

One of the follow-up studies that has been completed since 1980 and that included former students from an urban community with moderate to severe mental retardation was reported by Edgar and Levine (1986). They found that 39% of a group of 181 former students with severe handicaps had a job. In another study, which included individuals who had been in 10 special schools in Maryland, Hawkins (1984) found that 28% of a sample of former students with moderate to profound retardation who graduated in 1983 were employed. Another study, conducted by Wehman et al. (1985), found that approximately 21% of a sample of 117 transitional age former students with moderate, severe, or profound retardation were employed (12% in competitive employment and 9% in sheltered workshops). This follow-up study was conducted in urban, suburban, and rural communities.

More recently, Thurlow, Bruininks, and Lange (1989) reported findings from interviews of informed respondents for samples of former students in an urban school district who had moderate and severe levels of mental retardation. Individuals in this study had been out of school from 1 to 10 years. Those out of school between 1 and 5 years (the groups most comparable to samples in other studies cited here) had an employment rate of approximately 45% (7% in competitive employment and 33% in sheltered employment).

From these limited sets of data, it is apparent that variability exists from one study to the next in employment rates and other adjustment indicators. Some of this variability can be explained by differences in the times at which the studies were conducted, although this has been reduced here by looking only at studies reported since 1980. Another explanation may reside in the locations in which the studies were conducted. The employment percentages ranged from 21% to 45%, but it is not clear whether this range was related to the time at which the study was

conducted, to the location of the study, to sample differences, or to program effectiveness differences.

The current investigation was undertaken to collect post-school information on an additional sample of former students with moderate to severe mental retardation. The additional sample was from suburban communities of the Minneapolis-St. Paul metropolitan area in which Thurlow et al. (1989) obtained post-school information from an urban sample. The new sample of former students was identified to provide additional data on a broader sample that could be used to help identify implications for modifying programs and improving transition services. The purpose of this report is to summarize the findings for this large suburban sample.

Method

Subjects

Subjects were 106 former students in a large special education cooperative school district. All subjects had graduated from or completed schooling in the same special high school during the years 1982 to 1986. The high school was one that served students with moderate to profound mental retardation from nine school districts, primarily suburban communities, that contracted for services for these students. A total of 153 former students was identified as having graduated or completed their school program between 1982 and 1986.

The gender and age characteristics of the final sample are summarized in Table 1. A score of 46 on the Leiter International Performance Scale was used to assign individuals to groups. (Scores of 46 or above were considered indicative of moderate mental retardation; scores below 46 were considered indicative of severe-profound mental retardation). When scores were very close to this cutoff point or were quite high, however, other data (e.g., adaptive behavior scores on a standardized scale) were examined to confirm group placement. When no data on intellectual functioning were available for decision making, a school administrator was asked to state a classification; this classification was confirmed by examining the standardized adaptive behavior information. Similar percentages of males and females characterized the final samples (59% and 60% were male, 41% and 40% were female). The average age of the subjects in each group was about 23.8 years.

Table 2 presents data on the types of respondents and how long they knew the subjects. For the group with severe-profound mental retardation, most of the respondents were part of the group home staff (43%) followed by parents (32%), while for the group with moderate mental retardation, the majority of the respondents were parents (58%) followed by the group home staff (20%). For the individuals with severe-profound mental retardation, the average number of years respondents knew them was 11.9. For the individuals with moderate mental retardation, the mean number of years respondents knew them was 16.3, with two respondents knowing the individuals less than one year (coded as "0 years"). The difference between the two groups in the mean number of years was likely due to the higher percentage of respondents who were parents for the group of former students with moderate mental retardation (58%), compared to the percentage of parents for the group of former students with severe-profound mental retardation (32%).

Instruments

Three instruments were used in the study. The first instrument was a detailed interview protocol that was developed originally as part of the Post-School Project (see Thurlow et al., 1989). The second instrument was the Inventory for Client and Agency Planning (ICAP) (Bruininks, Hill, Weatherman, & Woodcock, 1986). The third instrument was a School Record Form, used to organize information obtained from each student's high school files.

Table 1

Gender Distribution and Ages of Subjects

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Gender				
Male	33	(59%)	30	(60%)
Female	23	(41%)	20	(40%)
Total	56		50	
Age				
M	23.8		23.8	
Range	21 - 27		19 - 27	

Table 2

Respondents in Each Group

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Respondent				
Group Home Staff	24	(43%)	10	(20%)
Day Program Staff	5	(9%)	5	(10%)
Work Staff	--	--	2	(4%)
Parent	18	(32%)	29	(58%)
Foster Parent	9	(16%)	4	(8%)
Total	56		50	
Years Known Subject[a]				
M	11.9		16.3	
SD	10.1		10.2	
Range	1 - 27		0 - 27	
Total	55		50	

[a]Information about number of years respondent knew a subject was unknown for one person in the severe-profound group.

Interview protocol. The Post-School Transition Survey Interview was designed to gather information on a former student's transition from school to adult life after high school. It is based on input from: (a) a survey of practitioners nationwide about follow-up information considered important for programs to have to plan for the needs of students in special education, (b) a review of instruments used by other post-school transition projects in the U.S., and (c) a task force of school district officials and project personnel. The development of the interview is described in detail by Thurlow et al. (1989). The original interview included 11 sections designed to gather information about a former student's day to day life since leaving high school; the section on past employment was shortened considerably for this study. Table 3 presents a summary of the sections (in terms of numbers of items and selected primary variables) used from the interview protocol. In addition, demographic data were collected on the former student's birth date, date of the interview, the respondent's name, the respondent's relationship to former students, and the length of time the respondent had known the former student.

Inventory for Client and Agency Planning (ICAP). The ICAP was developed as a tool for managing information in areas for planning and evaluating services for individuals with disabilities and elderly people. This instrument provides information on a subject's diagnostic and health status, in addition to normative scores for adaptive behavior, problem behaviors, projected service need, and current service placements, support services, and social-leisure activities. For this investigation, the sections used were those on functional limitations and needed assistance, adaptive behavior, and problem behaviors. With these sections, it is possible to derive normative scores on four domains of independence (Motor Skills, Social and Communication Skills, Personal Living Skills, and Community Living Skills), as well as for total independence, (Broad Independence), and on four indexes of maladaptive behavior (Internalized Maladaptive, Asocial Maladaptive, Externalized Maladaptive, General Maladaptive). It is also possible with the collected information to obtain an overall Service Score that combines and weights overall adaptive behavior and maladaptive behavior scores to reflect the need for care, support, supervision, or training. Normative data for the adaptive behavior and problem behavior sections of the ICAP were gathered from nearly 2000 subjects in 40 communities distributed throughout the U.S. The norming sample was selected to be as representative as possible of the U.S. population from age 3 months to 40 years and older. Stratifying variables included sex, race and Hispanic status, geographic region, and size of community; for adults, occupational and educational background also were employed as stratifying variables.

School record form. Available school record data were minimal in the urban study. Because some information was available in the regional school, a form was developed to organize the collection of data. The form was a single page that requested four types of information: (a) individual test scores, (b) placement status (vocational or developmental), (c) curricular areas and related services addressed in final IEP, and (d) participants in final IEP meeting.

Procedure

The procedures for this investigation followed those used in the Post-School Transition Project (Thurlow et al., 1989). For all subjects, basic procedures involved administration of the ICAP and the follow-up interview using informed respondents.

Interviewers were six individuals (project coordinators or graduate research assistants) who had been trained in general and specific procedures during four two-hour sessions. During these sessions, interviewers were given a general overview of the study, an introduction to interview techniques (including a video on interviewing techniques and strategies; Mathematica, 1982), and an explanation and detailed look at the instruments. This information was followed by role-playing of interviews with an experienced observer, and by the experienced interviewer observing the trainee

Table 3

Interview Sections, Numbers of Items, and Study Variables

Section	Number of Items	Study Variables
Current Activities	11	Employed, Day Program Participant
Work Activities	29	Job, Type, Training, Income, Raises, Satisfaction,
Post Employment	14	High School Employment, Summer Employment, Unemployment
Job Search	4	How, People Who Help
Education	14	Among, Waiting list, Program
Day Programs	19	Program, Waiting list, Satisfaction, Who Found
Living Arrangements	16	Residence, Waiting list, Satisfaction, Who Found
Support/Family/ Household	43	Children, Contact with Relatives, Friends, Activities
Citizenship	6	Voter, Income Taxes, Problems with Law
Support Programs	8	Types, Amounts
Social Adjustment/ Skills	15	Shopping, Banking, Transportation, Living Skills Telephone Skills

during an actual interview. After completion of training, an experienced interviewer accompanied each newly trained interviewer to the first interview to provide monitoring, feedback, and evaluation.

Parents and/or caregivers were contacted by phone to set up interview appointments. The required amount of time was explained, and the participant was told there would be a $10 gratuity. Most participants preferred to be interviewed in their homes or residences, although some preferred a neighborhood location such as a restaurant or community center.

Response Rates

Considerable time was spent locating and contacting subjects. Four weeks after the initial contact letters were sent, a second introductory letter was sent to individuals who did not respond to the initial mailing. Included in this mailing were new attempts to locate individuals who were not residing at the original address. A third mailing of the introductory letter was sent out eight weeks following the initial mailing. Finally, phone calls were made by the program coordinator to all individuals who did not respond to any of the three letters.

Of the 153 identified students, 125 (81.7%) were located and 28 (18.3%) were not located. Several former students had moved out of state and tracking efforts were unsuccessful. Of the 125 former students who were located, 108 (86.4%) agreed to participate; 16 refused to participate and 1 was deceased. Two of the 108 respondents had to be dropped at the point of data analysis because the former students did not meet our criteria for inclusion in the moderate, severe, or profound categories of mental retardation.

Data Analysis

Two approaches to data analysis were adopted for this set of data. First, in accord with recent factor analytic results (see Bruininks, McGrew, Thurlow, & Lewis, 1988), interview and ICAP data for former students were combined according to eight primary dimensions of community adjustment. Second, descriptive data were summarized for individual items of interest.

Results

Dimensions of Community Adjustment

Bruininks et al. (1988) analyzed interview and ICAP data from 239 subjects with mental retardation ranging from mild (n = 44) to moderate (n = 91) to severe (n = 104). First, descriptive summary statistics were calculated on a large number of variables. Then, exploratory factor analyses of select variables were conducted on 21 constructed measures, with each including at least three separate assessments of the measure. Bruininks et al. (1988) subjected the 21 variables, shown in Table 4, to principal components analysis followed by varimax rotation. A combination of objective (eigenvalues greater than one, scree test) and subjective (interpretability of factors) factor extraction criteria were employed. This procedure revealed six eigenvalues that were greater than one, suggesting that at least six factors should be extracted. The scree test suggested the presence of seven to eight factors. All solutions were reviewed, with the eight-factor solution considered to provide the most meaningful representation of the data. The eight-factor solution contains four factors in the area of personal competence and four in the area of community adjustment. The first four factors are: (a) personal independence, (b) maladaptive behavior, (c) physical mobility, and (d) physical complications. The next four factors include: (a) community social/recreation/leisure, (b) social and service support, (c) community independence/integration, and (d) community and economic integration. A description of the current sample in terms of the 21 variables that contribute to the eight factors is presented in Table 5.

Table 4

Composite Variables

ICAP Variables/Definition	Interview Variables/Definition
Personal Living Skills ICAP cluster	Daytime Independence Scale developed from two interview items and one ICAP item: 1=No formal daily program, 2=Day care, 3=Day or Work Activity Center, 4=Sheltered Workshop, 5=School or volunteer work, 6=Supervised or supported onsite job placement, 7=Employment
Community Living Skills ICAP cluster	
Social/Communication Skills ICAP cluster	
Motor Skills ICAP cluster	Economic Independence Scale that includes six items added (pays income tax, receives medicare/medicaid, receives social security income, puts money in/out of savings account, has own checking account, employed)
Externalized Maladaptive Behavior ICAP index	
Internalized Maladpative Behavior ICAP index	
Asocial Maladaptive Behavior ICAP index	Earned Income ($/month)
Physical Mobility ICAP Mobility & Arm/Hand	Supported Payments Dollars per month from SSI & Disability & Welfare & other
Need for Health Care ICAP Health & Required care by nurse/physician	Residential Independence Living arrangements on continuum scale: 1=Institution, hospital, nursing home, 2=Group residence, 3=Living with family or relative, 4=Apt training or half-way house, 5=Living with friends, spouse or alone
Physical Complications ICAP Vision & Hearing & Frequency of Seizures	Number of Friends (Count of friends)
Number of Support Services ICAP Support Services currently used	Variety of Friends Scale developed by adding friends identified as peer, residence staff, teacher/boss, romantic, and other
Number of Limiting Factors-Leisure ICAP limiting factors from social & leisure	Need for Social Support Scale that includes five items (pays by self, dials phone, shops, pays bills, puts money in/out savings account.
	Leisure Participation Scale developed by adding activities participated in during past seven days (up to 15 possible).

Table 5
Sample Description on Composite Variables

Composite Variable	Level of Mental Retardation: Severe-Profound M	SD	n[a]	Moderate M	SD	n[a]
Personal Living Skills	474.3	36.6	56	517.5	16.1	50
Community Living Skills	448.8	34.3	56	502.9	22.8	50
Social/Communication Skills	442.8	33.6	56	495.6	29.6	50
Motor Skills	442.1	39.3	56	497.6	27.4	50
Externalized Maladaptive	-7.8	12.4	56	-3.7	10.8	50
Internalized Maladaptive	-10.5	10.2	56	-6.6	8.9	50
Asocial Maladaptive	-12.2	12.4	56	-8.2	9.6	50
Physical Mobility	-2.1	0.5	55	-2.0	0.0	49
Need for Health Care	-2.3	0.7	54	-2.3	0.6	49
Physical Complications	-3.4	0.8	56	-3.1	0.4	49
# Support Services	-1.5	1.6	56	-1.2	0.5	50
# Limiting Factors-Leisure	-1.1	0.5	56	-1.1	0.6	50
Daytime Independence	3.4	1.0	55	5.0	1.8	48
Economic Independence	1.2	0.7	49	2.2	1.4	44
Earned Income	43.1	81.5	43	206.9	174.2	41
Supported Payments	165.9	135.7	51	92.2	122.6	42
Residential Independence	2.4	0.5	55	2.8	0.8	50
# Friends	2.3	3.4	55	3.0	3.2	50
Variety of Friends	2.3	1.9	53	3.2	1.6	48
Need for Social Support	-1.5	1.6	56	-1.2	0.5	50
Leisure Participation	7.1	2.6	56	7.5	2.6	49

[a]Variations in Ns for different variables are due to data not fitting into examined categories or to missing data.

School Records Information

School records information that was collected for each former student included individual test data, unit placement in the final school year, curricular areas addressed in the final IEP, number of years of vocational IEP goals and objectives, and participants in the final IEP meeting.

Test data. Table 6 summarizes aptitude scores as measured by the Leiter International Performance Scale. Scores were available for 35 individuals in the group with severe-profound mental retardation and for 44 individuals in the group with moderate mental retardation. Few individuals (2 and 3, respectively, in each group) had IQ information from other tests. The mean IQ of individuals with severe-profound mental retardation was 36 and the mean IQ of individuals with moderate mental retardation was 55. The scores of many members of this sample exceeded 55, possibly due to a variety of factors (e.g., stronger performance than verbal abilities, limitations in norms).

Unit placement. Two types of unit placements were available for students during high school. The two placements were referred to as "vocational" and "developmental." As indicated by these terms, students in the vocational program had greater emphasis placed on occupation-related skills. Students in the developmental program had greater emphasis placed on basic functional skills. Almost half (49%) of the subjects in the group with severe-profound mental retardation was placed in the developmental unit; 31% were in the vocational unit. Most of the students with moderate mental retardation (88%) were in the vocational unit in their final school year.

Curricular areas. Table 7 shows the curricular areas and related services addressed in the final IEPs, as well as the hours invested in each area per week. More than one area could be addressed for each subject; thus, percentages total more than 100% for each group. For the group with severe-profound mental retardation, the primary curricular emphases were communication (77%), daily living (73%), and self care (66%). The majority of the goals and objectives in the IEPs of former students with moderate mental retardation addressed work skills (58%), followed by self concept (46%), and by daily living skills (42%). A considerable number of hours was invested (6 - 12 hours per week) for the few individuals in each group who worked on food or eating skills). Other areas in which a considerable amount of time was invested were work skills and communication (4 hours each) and self care (3 hours) for students with severe-profound mental retardation, and work skills (8 hours) and leisure and daily living skills (3 hours each) for students with moderate mental retardation.

Vocational emphasis on IEPs. The average number of years of vocational emphasis on IEPs for individuals with severe-profound mental retardation was 1.7 (SD=1.4), with a range of 0 (less than 1 year) to 5. For individuals with moderate retardation, the average number of years was 3.3 (SD = 1.2), with a range of 1 to 6 years.

Participants in final IEP meeting. Table 8 summarizes the participation in the final IEP meeting for each group. This IEP meeting and related planning reflect an important and growing issue in special education, with special emphasis on the planning of needed transition services for students with handicaps (Johnson, Bruininks, & Thurlow, 1987). For almost every student in both groups, the due process specialist (98% and 96%) and the teacher (100% and 90%) were present at the last IEP meeting. Other persons present were parents or guardians (64% in the group with severe-profound mental retardation and 83% in the group with moderate mental retardation). Related service staff were usually present (60%) for the group with severe-profound mental retardation. Note that while 42% of the students with moderate retardation were present at the IEP meetings, only 20% of the students with severe-profound retardation were present at these meetings.

Table 6

Aptitude Scores[a]

Standard Score	Level of Mental Retardation: Severe-Profound	Level of Mental Retardation: Moderate
M	36.29	55.26
SD	6.30	7.03
Range	24 - 45	47 - 80
N	35	44

[a]Data not included in this table include: (a) in the group with severe-profound mental retardation, two subjects who were tested with the Stanford Binet (M=30.00), and (b) in the group with moderate mental retardation, one subject who was tested with the Wechsler Intelligence Scale for Children (score=60.00), another subject with the Stanford-Binet (score=66.00) and an additional subject with the Pictorial Test of Intelligence (score=64.00). These relatively high intelligence quotients often were for students who had relatively low adaptive behavior scores.

Table 7

Curricular Areas and Related Services Addressed in Final IEP and Hours Per Week for Each Area

Curricular Areas	Level of Mental Retardation: Severe-Profound		Level of Mental Retardation: Moderate	
	n (%)	Ave Hrs/Wk	n (%)	Ave Hrs/Wk
Work Skills	19 (43%)	4.37	28 (58%)	8.44
Self Concept	11 (26%)	1.43	22 (46%)	2.78
Academics	19 (43%)	1.90	18 (38%)	2.44
Food	6 (14%)	6.14	12 (25%)	12.50
Self Care	29 (66%)	3.24	13 (27%)	1.85
Daily Living	32 (73%)	2.06	20 (42%)	3.08
Communication	34 (77%)	4.73	10 (21%)	1.85
Leisure	18 (41%)	2.53	8 (17%)	3.38
Socialization	13 (30%)	2.15	--	--

[a]Percentages in parentheses are based on 44 subjects in the group with severe-profound mental retardation (except the percentage on "self-concept" which is based on 56 subjects), and on 48 subjects in the group with moderate mental retardation. Information about the remaining subjects was unknown.

Table 8

People in Attendance at Final IEP Meeting

	Level of Mental Retardation	
Participants[a]	Severe-Profound	Moderate
Student	9 (20%)	20 (42%)
Parent/Guardian	20 (64%)	40 (83%)
Caregiver	14 (31%)	14 (29%)
Due Process Specialist	44 (98%)	46 (96%)
Teacher	45 (100%)	43 (90%)
Related Service Staff	27 (60%)	14 (29%)
Social Worker	11 (24%)	12 (25%)
DRS Counselor	2 (4%)	1 (2%)
Adult Voc Serv (DAC)	--	1 (2%)
Other	8 (18%)	19 (40%)
Total	45	48

[a]Percentages in parentheses are based on Total Ns (45 subjects in the group with severe-profound mental retardation, and 48 subjects in the group with moderate mental retardation). Information about 10 subjects in the first group and 2 subjects in the second group was unknown.

In addition, relatively few vocational, rehabilitation, and day service personnel were present at these meetings.

Current Daytime Activities

Table 9 is a summary of the former students' current activities. More than one activity could be designated for each person. The majority of those with severe-profound mental retardation (72%) worked either part time (54%) or full time (18%). A higher percentage of working people is observed among those with moderate mental retardation (92%); 66% of these subjects worked part time and 26% worked full time. Many individuals worked and attended a day program at the same time. Of the former students with severe-profound mental retardation, 84% attended a day program, compared to 46% of the former students with moderate mental retardation. (One working person with severe-profound mental retardation was a volunteer.)

Work Characteristics

Only those former students whose respondents reported them working (or working and attending a day program) were included in further analyses of work activities. These analyses included 40 subjects with severe-profound mental retardation, and 46 subjects with moderate mental retardation.

Characteristics of the jobs. Table 10 summarizes several characteristics of the jobs held by members of the sample. These characteristics included the extent of special services in the job, type of job, whether the job placement was part of a training program, and how long the subject had worked. The majority of the subjects in the group with severe-profound mental retardation (85%) worked in jobs that provided special services, while 10% were employed in competitive jobs. In the group with moderate mental retardation, 43% of those working were employed in jobs that provided special services, 39% were employed in competitive jobs, and 11% were in jobs that were part of programs for hiring persons with handicaps.

Table 10 shows that while the majority (52%) of working people with severe-profound mental retardation were in work activity centers and 27% were in sheltered jobs, most (46%) of the working people with moderate mental retardation were in regular jobs and 35% were in sheltered jobs. The majority (77%) of the former students with severe-profound mental retardation and half of the former students with moderate mental retardation (50%) were working in jobs as part of training programs (see Table 10).

Table 10 also shows that the job tenure of individuals with severe-profound mental retardation varied from 8 to 416 weeks, with a mean of about 110 weeks. For individuals with moderate mental retardation, the number of weeks on the job varied from 1 to 676, with a mean of approximately 122 weeks.

Earnings information. Table 11 presents information about hourly incomes according to whether the former students worked in regular jobs, sheltered workshops, or day activity centers. On the average, individuals with severe mental retardation who were in regular jobs (N = 2) earned $3.46, compared to $4.01 earned by those with moderate mental retardation in regular jobs (N = 19). Former students with severe-profound mental retardation who worked in sheltered workshops (N = 8) earned $.68, while those with moderate mental retardation (N = 10) earned $.85. Former students with severe-profound mental retardation in activity center jobs (N = 15) earned $.44, while those with moderate mental retardation (N = 3) earned $.36.

Table 9

Current Activities

Current Activity[a]	Level of Mental Retardation: Severe-Profound		Moderate	
Paid Employment:	40	(72%)	46	(92%)
Full time	10	(18%)	13	(26%)
Part time	30	(54%)	33	(66%)
In Job Training	2	(4%)	1	(2%)
Day Program	47	(84%)	23	(46%)
On Job Training	--	--	2	(9%)
Sheltered	8	(17%)	11	(48%)
Day Activity Center	37	(79%)	10	(43%)
Other	1	(2%)	--	--
Unknown	1	(2%)	--	--
Disabled/Receive SSI	1	(2%)	1	(2%)
Volunteer Work	1	(2%)	--	--
Unspecified or other	--	--	2	(4%)
Total	56		50	

[a]Entries are numbers of respondents, with percentages of the groups in parentheses. Percentages may not total 100 because more than one activity could be designated for a single subject. Additional possible activity choices (homemaker full time, student full time, and unable to find work) are not listed in the table because they were not selected for either group.

Table 10

Job Characteristics

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Extent of Special Services[a]				
Provided special services	34	(85%)	20	(43%)
Competitive employment	4	(10%)	18	(39%)
Program for hiring handicapped	1	(2%)	5	(11%)
Don't know	1	(2%)	3	(7%)
Total	40		46	
Type of Job[a]				
Regular	2	(5%)	21	(46%)
Sheltered	11	(27%)	16	(35%)
Activity Center	21	(52%)	4	(9%)
Volunteer	1	(2%)	----	
Other	5	(13%)	5	(11%)
Total	40		46	
Job Part of Training Program[a]				
Yes	31	(77%)	23	(50%)
Job Tenure (Weeks)[b]				
Mean	109.8		122.4	
SD	100.3		114.8	
Range	8 - 416		1 - 676	
Total	39		46	

[a]Entries are numbers of subjects, with percentages of those in group who worked (see Total) in parentheses.

[b]For Job Tenure, the data for the severe-profound group are based on 39 subjects instead of 40; job tenure was unknown for one person.

Table 11

Earnings Information (Hourly Income) by Type of Job

	Level of Mental Retardation	
Hourly Income	Severe-Profound	Moderate
Regular Job		
M	$ 3.46	$ 4.01
SD	$ .16	$ .76
Range	$3.35 - $3.58	$3.25 - $6.25
N	2	19
Sheltered Job		
M	$.68	$.85
SD	$.55	$.46
Range	$.03 - $1.90	$.25 - $1.75
N	8	10
Activity Center Job		
M	$.44	$.36
SD	$.51	$.22
Range	$.03 - $1.76	$.23 - $.62
N	15	3

[a]Several respondents did not know the subject's income (9 persons in each group).

Securing employment. Table 12 summarizes how jobs were found for individuals in each group. More than one choice could be selected for a single subject; thus, percentages could total more than 100% for a group. In both groups, most of those working found their jobs with the help of the school or vocational counselor (33% in the group with severe-profound mental retardation and 35% in the group with moderate mental retardation). Other responses show that 23% with severe-profound mental retardation found their jobs with the help of the social worker, and 10% with the help of a teacher of other source. Of those with moderate mental retardation, 27% of the jobs were found with the help of "other" sources, 17% with the help of parents, and 15% with the help of the social worker. Four possible responses were never cited by either group (friends, newspaper, advocate agency, and brochure).

Tips, bonuses, raises, and promotions. Table 13 presents the percentages of employed individuals receiving tips, bonuses, raises and promotions. In the group with severe-profound mental retardation, 20% of the working subjects received promotions, 10% secured raises and 2% received tips or bonuses. Of the working individuals with moderate mental retardation, 33% secured raises, 13% were promoted, and 2% received tips or bonuses.

Job satisfaction. Respondents were asked to indicate the subjects' satisfaction with the job, pay, amount of work, and chance for promotion. Table 13 summarizes this information. Respondents indicated that 95% of the former students with severe-profound mental retardation and 87% of the former students with moderate mental retardation were satisfied (very satisfied and somewhat satisfied) with their jobs. The majority of the individuals in both groups were considered to be satisfied (very and somewhat satisfied) with the pay they received (84% with severe-profound mental retardation, and 91% with moderate mental retardation). Of the former students with severe-profound mental retardation, 90% were considered to be satisfied with the amount of work, compared to 87% of those with moderate mental retardation. Most individuals in both groups were considered to be satisfied (very and somewhat satisfied) with their opportunities for promotion (79% for those with severe-profound mental retardation and 71% for those with moderate mental retardation).

Other Employment Information

Respondents were asked about unemployment, high school employment, who would help the former students look for a job if they were seeking employment, and what the former students would do to secure a job. All the respondents in the sample were expected to answer these questions (except the question for subjects who were looking for a job at the time of the interview). Some of the information requested from respondents (e.g., high school employment, past unemployment) required knowledge and memory of past events; in some cases respondents did not know or could not remember this information. Thus, percentages in several tables are based on fewer than the total number possible in each group.

Unemployment information. Respondents provided information about whether the former students had ever been unemployed since leaving high school and for how long they were unemployed. Table 14 reveals that 20% of the individuals with severe-profound disabilities had been unemployed since leaving high school, compared to 36% of the individuals with moderate disabilities. Individuals with severe-profound disabilities were unemployed an average of about 42 weeks out of the time since leaving high school, while individuals with moderate disabilities were unemployed an average of approximately 29 weeks.

High school employment. Respondents answered questions about whether the former students had summer jobs at the time they were in high school and whether they had worked during the school years. Table 15 shows that while few individuals with severe-profound mental

Table 12

How Job Was Found[a]

Job Found By	Level of Mental Retardation: Severe-Profound		Moderate	
Him/Her/Yourself	--	--	2	(4%)
Parents	1	(3%)	8	(17%)
Teacher	4	(10%)	--	--
School/Voc. Counselor	13	(33%)	16	(35%)
Voc. Rehabilitation	1	(3%)	1	(2%)
Employment Agency	1	(3%)	--	--
Social Worker	9	(23%)	7	(15%)
Group Home Staff	2	(5%)	1	(2%)
Other	4	(10%)	12	(27%)
Don't know	4	(10%)	--	--
Total N	39		46	

[a]Percentages in parentheses are based on the total numbers of subjects who work. One respondent for the severe-profound group did not answer these questions. Therefore, in this table, the total number for this group is 39 instead of 40. Percentages for the moderate group do not total 100 because more than one selection could be designated for a single subject. Additional possible source choices (friend, newspaper ad, advocate agency, and brochure) are not listed in the table because they were not ever selected for any of the two groups.

Table 13
Tips, Bonuses, Raises, Promotions, and Job Satisfaction

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Received				
Tips or Bonuses	1	(2%)	1	(2%)
Raises	4	(10%)	15	(33%)
Promotions	8	(20%)	6	(13%)
Total N	40		46	
Satisfaction with Job:[a]				
Very	28	(70%)	29	(63%)
Somewhat	10	(25%)	11	(24%)
Not Very	1	(2%)	5	(11%)
Not At All	--	--	--	--
Unknown	1	(2%)	1	(2%)
Satisfaction with Pay[a]				
Very	27	(69%)	34	(74%)
Somewhat	6	(15%)	8	(17%)
Not Very	2	(5%)	2	(4%)
Not At All	--	--	1	(2%)
Unknown	4	(10%)	1	(2%)
Satisfaction with Amount of Work[a]				
Very	23	(58%)	26	(57%)
Somewhat	13	(32%)	14	(30%)
Not Very	--	--	4	(9%)
Not At All	--	--	1	(2%)
Unknown	4	(10%)	1	(2%)
Satisfaction with Opportunities for Promotion[a]				
Very	18	(46%)	19	(41%)
Somewhat	13	(33%)	14	(30%)
Not Very	1	(3%)	5	(11%)
Not At All	--	--	1	(2%)
Unknown	7	(18%)	7	(15%)

[a]Percentages in parentheses are based on total of subjects working (40 in the severe-profound group and 46 in the moderate group) except for two instances. In the severe-profound group, one subject was a volunteer worker and did not respond to the "pay" question and the "opportunities for promotion" question. For these two items, the total number of subjects is 39 instead of 40.

Table 14

Unemployment Information[a]

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Ever Unemployed	9	(20%)	17	(36%)
Weeks Unemployed				
M	42.2		28.6	
SD	62.6		43.1	
Range	4 - 156		1 - 180	
Total N	8		15	

[a]Percentages in parentheses are based on 46 respondents in the severe-profound group and 47 respondents in the moderate group. The information about the remaining subjects of the sample for this question was not available. The information about weeks unemployed was unknown for one subject in the severe-profound group and for two subjects in the moderate group.

retardation had summer jobs during high school, or had school year jobs (4% and 7%, respectively), 44% of the subjects with moderate mental retardation had summer jobs during high school, and 34% of the members of this group had school year jobs. Of the former students with moderate mental retardation who had summer jobs during high school or a school year job, most of them had paid jobs in supervised placements, with their jobs being part of school programs. (More than one answer could be designated in the type of jobs questions; thus, percentages in parentheses could total more than 100). In this group most of the jobs during high school were found with the help of the school or vocational counselor (90% of the summer jobs, and 88% of the school year jobs).

Assistance in seeking employment. Table 16 summarizes who was helping those individuals looking for jobs at the time of follow-up. Respondents could select more than one choice. In this table are presented the first and second choices. For both groups, most respondents indicated that Day Activity Center (DAC) personnel were most actively involved in assisting subjects in securing employment. Rehabilitation personnel were not involved in assisting persons in these samples. There appeared to be little contribution by external service agencies in providing assistance and support to these samples in securing employment.

Job seeking skills. The views of respondents about what the former students would do to get a job also are summarized in Table 16. The percentages in each activity selection are based on 47 respondents for the group with severe-profound mental retardation (answers for eight were unknown) and on 48 respondents for the group with moderate mental retardation (answers for two subjects were unknown). Table 16 reveals that 85% of the respondents believed that the individuals with severe-profound mental retardation would do nothing; this compared to 42% for the individuals with moderate mental retardation. Other popular selections were that the former students would ask someone for help (11% and 31% for each group), apply for an interview or look at site (4% for the group with severe-profound mental retardation and 21% for the group with moderate mental retardation). For most persons, respondents believed that they had few active job seeking skills.

Day Programs

Former students who were in day programs included 84% (n=47) of individuals with severe-profound mental retardation, and 46% (n=23) of individuals with moderate mental retardation. The types of day programs were primarily Day Activity Centers for individuals with severe-profound mental retardation (79%) and almost equally split between sheltered (48%) and Day Activity Centers (43%) for individuals with moderate mental retardation. (Refer to Table 9 for breakdown of day programs by type.) Several questions were asked for individuals in day programs.

Table 17 shows the frequency of attendance in these programs. All individuals with severe-profound mental retardation, and 96% of those with moderate mental retardation spent five days in the day program each week. While subjects in the first group spent, on average, about 35 hours per week, subjects in the second group spent approximately 29 hours per week in the day programs.

Table 18 is a summary of the types of activities in which the former students were involved in their day programs. In addition, this table summarizes whether a job was part of the day program. The most frequently mentioned activities were work skills (74% of individuals with severe-profound mental retardation, and 83% of individuals with moderate mental retardation), community living skills (38% of individuals with severe-profound mental retardation, and 43% of individuals with moderate mental retardation), and personal living skills (36% of individuals with severe-profound mental retardation, and 30% of individuals with moderate mental retardation). Other activities selected for both groups were recreation/leisure, behavior, and sensory motor skills. For the group with severe-profound mental retardation, physical, speech, or occupational therapy (19%), and Insert

Table 15
High School Employment

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Summer job during high school	2	(4%)	22	(44%)
Job during school year	4	(7%)	17	(34%)
Type of summer job[a]				
Job supervised placement	1	(50%)	18	(90%)
Job part of school program	2	(100%)	19	(95%)
Paid job	1	(50%)	15	(75%)
Type of school year job[b]				
Job supervised placement	2	(100%)	15	(88%)
Job part of school program	2	(100%)	16	(94%)
Paid job	3	(100%)	12	(71%)
How summer job was found[a]				
Through Teacher	1	(50%)	--	--
Through Counselor	1	(50%)	18	(90%)
Voc. Rehabilitation	--	--	1	(5%)
Other	--	--	1	(5%)
How school year job was found[b]				
Through Teacher	1	(50%)	1	(6%)
Through Counselor	1	(50%)	14%	(88%)
Friends	--	--	1	(66%)

[a]Percentages in parentheses in "type of summer job" and "how summer job was found" should be based on the number of persons that responded affirmatively to "had summer job during high school" (2 in the severe-profound group and 22 in the moderate group). In the moderate group, 2 respondents did not answer the questions related to summer jobs, therefore the percentages are based on 20 subjects instead of 22.

[b]School year jobs information for the severe-profound group is based on the 2 or 3 persons who answered these questions, instead of 4 respondents for subjects who had school year jobs. In the moderate group, 16 persons instead of 17 constitute the base number on which percentages are based for the question "How School Year Job Was Found."

Table 16

Job Search

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Assistance in Looking for Jobs: First and Second Selection[a]				
	1st	2nd	1st	2nd
Parent				1 (25%)
Group Home	-- --	-- --	1 (14%)	1 (25%)
Social Worker	-- --	-- --	1 (14%)	1 (25%)
Rehabilitation Services	-- --	-- --	-- --	-- --
Self	-- --	-- --	-- --	-- --
Day Activity Center	3 (75%)	-- --	3 (43%)	-- --
Place of Employment	1 (25%)	-- --	2 (29%)	-- --
Other	-- --	-- --	-- --	1 (25%)
Total	4		7	4
Strategies for Seeking a Job[b]				
Nothing	40 (85%)		20 (42%)	
Ask someone for help	5 (11%)		15 (31%)	
Apply/Interview/look at site	2 (4%)		10 (21%)	
Improve current job performance	-- --		1 (2%)	
Cold calling	-- --		1 (2%)	
Other	-- --		1 (2%)	
Total	47		48	

[a]Entries are numbers of subjects with percentages of the groups (in parentheses) based on total number of subjects looking for a job.

[b]Entries are numbers of subjects with percentages of the group (see Total) given in parentheses. Answers for 8 subjects in the severe-profound group and for 2 subjects in the moderate group were unknown. Possible responses that were never given included "Take class to improve skills," "Get work evaluation," "Whatever necessary," "Clean up" and "Don't know."

Table 17

Day Program Attendance

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Days per Week[a]				
3	---		1	(4%)
5	47%	(100%)	22	(96%)
Hours per Week				
M	35.1		29.4	
SD	5.9		11.7	
Range	25 - 53		4 - 45	
Total	47		23	

[a]Percentages in parentheses are based on numbers subjects in day programs.

Table 18
Day Program Activities and Satisfaction

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Activities				
Enrichment classes	--	--	--	--
Personal living skills	17	(36%)	7	(30%)
Community living skills	18	(38%)	10	(43%)
Sensory motor skills	4	(9%)	2	(9%)
Academic skills	1	(2%)	--	--
Behavior skills	12	(26%)	4	(17%)
Work skills	35	(74%)	19	(83%)
Recreation/leisure	13	(28%)	5	(22%)
Physical/speech/ occupational therapy	9	(19%)	--	--
Other	--	--	1	(4%)
Total N	47		23	
Job during day program[a]				
Yes	30	(65%)	20	(87%)
Subject Satisfaction[b]				
Very satisfied	29	(64%)	15	(65%)
Somewhat satisfied	13	(29%)	6	(26%)
Not very satisfied	--	--	2	(9%)
Not at all satisfied	1	(2%)	--	--
Don't know	2	(4%)	--	--
Total N	45		22	
Respondent's Satisfaction				
Very satisfied	28	(62%)	14	(61%)
Somewhat	11	(24%)	8	(35%)
Not very	3	(7%)	--	--
Not at all	2	(4%)	--	--
Don't know	1	(2%)	1	(4%)
Total N	45		23	

[a]Percentages in parentheses in "job during day program" in the group with severe-profound mental retardation is based on 46 subjects, Information for one subject in this group was unknown.

[b]Percentages in parentheses are based on Total Ns for each response category. Information for few subjects who were in a day program (2 and 1 in each group) was unknown (non-response).

academic skills (2%) also were noted. When asked whether a job or work was part of the day program, 65% of the respondents for the group with severe-profound mental retardation responded affirmatively, and 87% of the respondents for the group with moderate mental retardation did so.

Satisfaction. Respondents' views of the former students' satisfaction with their day programs also are summarized in Table 18, along with their responses about their own satisfaction with the programs. The majority of respondents believed the former students in both groups were satisfied (very satisfied and somewhat satisfied) with the day programs (93% for the group with severe-profound mental retardation and 91% for the group with moderate mental retardation). For the respondents themselves, 86% were satisfied for the group with severe-profound mental retardation and 96% were satisfied for the group with moderate mental retardation). The highest percentage of dissatisfaction can be noted in the answers of respondents for the group with severe-profound mental retardation (11%).

Assistance in finding day programs. For those persons enrolled in day programs, information on who found the day program is summarized in Table 19. The most frequently given response for both groups was the social worker (38% for the group with severe-profound mental retardation, and 35% for the group with moderate mental retardation). For the group with severe-profound mental retardation, this selection was followed by school counselor (22%), other (18%), and parent/relative (11%). For the group with moderate mental retardation, the first selection was followed by parent/relative (30%), and other (13%). Other alternatives were selected by less than 10% of the respondents in each group.

The ways in which former students find out about other opportunities for day programs also are presented in Table 19. The most selected source for both groups was social services (68% for individuals with severe-profound mental retardation, and 48% for individuals with moderate mental retardation). Other alternatives mentioned with some frequency for individuals with severe-profound mental retardation were advocacy agencies (20%), group home (16%), professionals (16%), other (14%), and parents (11%). For individuals with moderate mental retardation, some frequent selections were professionals (22%), current work placement (17%), and other (17%).

Participation in other day programs. Respondents were asked about the former students' current participation in other day programs, previous attendance at other programs, and whether they were on any waiting lists for day programs (see Table 19). No one was currently attending another day program and only 2% of the subjects with severe-profound mental retardation were on a waiting list. These responses support the finding of general satisfaction with their current programs. With respect to previous programs, while 39% of the former students with moderate mental retardation had attended another program since high school, only 7% of the former students with severe-profound mental retardation had done so.

Living Arrangements

Respondents were asked several questions about the subjects' living arrangements, specifically current living arrangements, information about residential facilities, and satisfaction with residential living arrangements.

Current living arrangements. Table 20 is a summary of current living arrangements for all former students in the sample. The greatest percentage in each group lived in residential placements (54% of former students with severe-profound mental retardation, and 40% of former students with moderate mental retardation), followed by living with parents (29% with severe-profound mental retardation, and 34% with moderate mental retardation). Other current living

Table 19
Finding Day Programs and Waiting Lists

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Who Found Current Day Program[a]				
Parent/Relative	5	(11%)	7	(30%)
Teacher	1	(2%)	--	--
School counselor	10	(22%)	1	(4%
Friend	--	--	--	--
Social Worker	17	(38%)	8	(35%)
Rehabilitation Services	--	--	--	--
Interdisciplinary Team	1	(2%)	2	(9%)
Unknown	3	(7%)	2	(9%)
Other	8	(18%)	3	(13%)
Total	45		23	
How Subjects Find Out About Other Opportunities for Day Programs[b]				
Work	3	(7%)	4	(17%)
Group home	7	(16%)	1	(4%)
Parents	5	(11%)	1	(4%)
Social services	30	(68%)	11	(48%)
Professionals	7	(16%)	5	(22%)
Rehabilitation Services	1	(2%)	--	--
Advocacy Agencies	9	(20%)	2	(9%)
Peers	1	(2%)	--	--
School	4	(9%)	--	--
Other	6	(14%)	4	(17%)
Unknown	1	(2%)	3	(13%)
Total	44		23	
Participation in Other Day Programs and Presence on Waiting Lists[c]				
Currently attends other program	--	--	--	--
Previously attended other program	3	(7%)	9	(39%)
On Waiting List	2	(4%)	--	--
Total	45		23	

[a]Percentages in parentheses in the group with moderate mental retardation are based on number of subjects who were in a day program. For 2 subjects in the group with severe-profound mental retardation who go to a day program, information was unknown.

[b]Percentages in parentheses in the moderate group are based on number of subjects who go to a day program. In the group with moderate mental retardation information for 3 subjects who go to a day program was unknown.

[c]Information for 2 subjects in the group with severe-profound mental retardation who go to a day program was unknown.

Table 20

Current Living Arrangements

Arrangements[a]	Level of Mental Retardation: Severe-Profound		Moderate	
With Parents	16	(29%)	17	(34%)
Residential Placement	30	(54%)	20	(40%)
With Friends	--	--	1	(2%)
Foster Parents	9	(16%)	4	(8%)
Apartment Training Placement	--	--	8	(16%)
Other	1	(2%)	--	--
Total N	56		50	

[a]Possible responses that were never given included "institution," "with spouse," "halfway house" and "other relatives.

arrangements were living with foster parents, in an apartment training placement, with friends, and other alternatives.

Residential facilities. Table 21 summarizes information about the residences of former students living in residential facilities (30 with severe-profound mental retardation, and 20 with moderate mental retardation). For the group with severe-profound mental retardation, the mean number of residents was 17.3, while for the group with moderate mental retardation the number of residents in the facilities was an average of 21.2. Individuals with severe-profound mental retardation had lived, on average, 408.7 weeks in these residences, while individuals with moderate mental retardation had lived a mean of 294.8 weeks in the residential facilities. In most cases, residences were found by a social worker or social services (57% of former students with severe-profound mental retardation and 50% of former students with moderate mental retardation), followed by parents and group home personnel.

Satisfaction with living arrangements. Table 21 summarizes the respondents' views of the formers students' satisfaction and their own satisfaction with living arrangements for students who did not live with their parents. Overall, both former students and respondents were satisfied (very satisfied and somewhat satisfied) with the living arrangements. Only 9% of the former students and the respondents in the group with moderate mental retardation were not satisfied with their current living arrangements.

Social Networks

Family relationships. Table 22 shows that only one former student in each group had children. For those individuals who did not live with their parents or with foster parents, information was collected on whether they saw or talked to relatives and which relatives were seen or talked to on a regular basis. Table 22 reveals that the majority of the former students had seen or talked to relatives, although contacts were fewer for individuals with severe-profound mental retardation (81%) than for individuals with moderate mental retardation (97%). The relatives seen or talked to by most former students on a regular basis were mother (79% for the group with severe-profound mental retardation and 86% for the group with moderate mental retardation), father (64% for the group with severe-profound mental retardation and 83% for the group with moderate mental retardation), and brothers and sisters (75% for the group with severe-profound mental retardation and 79% for the group with moderate mental retardation). The frequency of contacts varied considerably (see Table 23). For example, mothers were seen less than monthly by 47% of the former students with severe-profound mental retardation and 15% of the former students with moderate mental retardation; 16% with severe-profound mental retardation saw the mother at least once per week, compared to 40% of those with moderate mental retardation.

Friendships. Table 24 summarizes information about friends of the former students. While 84% of the individuals with moderate mental retardation had special friends, only 61% of the individuals with severe-profound mental retardation had special friends. The average number of special friends for individuals with severe-profound mental retardation was 4.2; the mean number of special friends for subjects with moderate mental retardation was 3.6. These friends were described by the respondents to a large extent as peer friends (55% for the group with severe-profound mental retardation, and 69% for the group with moderate mental retardation). This selection was followed by "staff from the subject's residence" for the group with severe-profound mental retardation (27%), and volunteers or citizens for the group with moderate mental retardation (24%).

Respondents also were asked how satisfied they thought the former student was with the number of friends and the amount of contact with friends (see Table 24). For former students with severe-profound levels of mental retardation, 48% of the respondents indicated that individuals were

Table 21

Information About Residential Facilities

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Number of Residents[a]				
M	17.3		21.2	
SD	21.3		24.9	
Range	3 - 64		3 - 64	
N	30		20	
Weeks in Residence[a]				
M	408.7		294.8	
SD	321.5		261.5	
Range	28 - 1092		12 - 1092	
N	30		19	
Who Found Residence[a]				
Social Work/Social Service	17	(57%)	10	(50%)
Group Home	4	(13%)	3	(15%)
Parents	3	(10%)	4	(20%)
Don't Know	6	(20%)	2	(10%)
Other	--	--	1	(5%)
N	30		20	
Satisfaction with Living Arrangements[b]				
Subject's Satisfaction				
Very satisfied	28	(78%)	21	(66%)
Somewhat satisfied	8	(22%)	8	(25%)
Not very satisfied	--	--	3	9%)
Not at all satisfied	--	--	--	--
Total N	36		32	
Respondent's Satisfaction				
Very satisfied	24	(73%)	18	(58%)
Somewhat satisfied	9	(27%)	10	(32%)
Not very satisfied	--	--	2	(6%)
Not at all satisfied	--	--	1	(3%)
Total N	33		31	

[a]Mean number of residents, mean weeks in residence, percentages (in parentheses) are based on number of subjects who live in residential facilities. Information about number of weeks in residence for one subject in the group with moderate mental retardation was unknown. Possible responses that were never given in the question "Who found residential facility?" included "institution," "foster provider" and "self."

[b]Percentages in parentheses are based on number of subjects not living in their natural parents' home who responded to these questions. Information about satisfaction for several subjects and respondents was unknown (non-response).

Table 22

Family Relationships[a]

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Have Children				
Yes	1	(2%)	1	(2%)
See/Talk to Relative				
Yes	25	(81%)	28	(97%)
Total N	31		29	
Relative Seen or Contacted (talked with) on Regular Basis				
Mother	22	(79%)	25	(86%)
Father	18	(64%)	24	(83%)
Brother/sister	21	(75%)	23	(79%)
Other relatives	3	(11%)	8	(28%)
Extended Family	--	--	4	(14%)
Grandparent	3	(11%)	5	(17%)
Total N	28		29	

[a]Percentages in parentheses in each group are based on numbers to which questions apply. Questions on relatives were asked about subjects who did not live with parents or foster parents (31 subjects in the severe-profound group and 29 subjects in the moderate group. Information was unknown for three subjects in the group with severe-profound mental retardation.

Table 23

Frequency of Contact with Relatives

Relative	Level of Mental Retardation: Severe-Profound		Moderate	
Mother				
Less than monthly	12	(47%)	4	(15%)
At least weekly	4	(16%)	11	(40%)
Father				
Less than monthly	6	(29%)	4	(15%)
At least weekly	5	(24%)	10	(36%)
Sibling				
Less than monthly	11	(33%)	4	(11%)
At least weekly	8	(24%)	14	(38%)
Extended Family				
Less than monthly	2	(25%)	3	(38%)
At least weekly	4	(51%)	5	(63%)
Grandparent				
Less than monthly	3	(30%)	5	(39%)
At least weekly	3	(30%)	5	(39%)

Table 24

Information on Friends

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Has Special Friends				
Yes	34	(61%)	42	(84%)
No	22	(39%)	8	(16%)
Number of Special Friends[a]				
M	4.2		3.6	
SD	4.8		3.2	
Range	1 - 21		1 - 15	
Description of Friends[a]				
Peer friends	18	(55%)	29	(69%)
Staff from residence halls	9	(27%)	5	(12%)
Volunteer or Citizen	7	(21%)	10	(24%)
Romantic friend	2	(6%)	9	(21%)
Current teacher or boss	2	(6%)	5	(12%)
Other	10	(30%)	7	(17%)
Don't know	--	--	--	--
Total N	33		42	
Satisfaction with Numbers of Friends and Amount of Contact				
Very satisfied	26	(48%)	33	(67%)
Somewhat satisfied	18	(33%)	12	(24%)
Not very satisfied	4	(7%)	3	(6%)
Not at all satisfied	2	(4%)	1	(2%)
Don't know	4	(7%)	--	--

[a]For one subject in the severe-profound group who had special friends, information about number of friends and description of special friends was unknown.

"very satisfied," 33% responded "somewhat satisfied," and 11% were "not very satisfied" or "not at all satisfied". For individuals with moderate levels of mental retardation, 67% of the respondents felt that they were "very satisfied," 24% indicated "somewhat satisfied," and only 8% responded "not very satisfied" or "not at all satisfied." Respondents also were asked about the subjects' social contact with nonhandicapped persons of the same age. Relatively few subjects in each group were considered to have regular social contact with nonhandicapped persons who were not staff or family members. Less than 8% of the former students with severe-profound mental retardation and less than 25% of the former students with moderate mental retardation had regular social contact with nonhandicapped persons other than family members or service personnel. Those who did have regular contact generally met these people one or more times per month (severe-profound - 100%, moderate - 50%) or one or more times per week (moderate - 42%).

Interpersonal network. Information was gathered on the interpersonal networks of individuals by asking with whom the former student would discuss personal matters, feelings when upset or angry; who was the individual's best friend, and with whom he or she would share activities; the person whose advice was considered important (see Table 25). Parents were given as the primary people for persons with moderate mental retardation to talk with about personal matters (49%). A staff member was the most frequent response for subjects with severe-profound mental retardation (46%). Respondents also reported that 38% of subjects with severe-profound mental retardation had no one with whom to talk about personal matters. When the subjects were upset or angry, members of the residence staff were identified as persons most often contacted for both groups (severe-profound - 54%, moderate - 40%). Parents also played an important role (38%) for individuals with moderate mental retardation.

When respondents were asked about the subjects' best friend, both groups described a peer friend (severe-profound - 25%, moderate - 40%). Respondents also reported a relatively high percentage of persons in both groups as not having a best friend (severe-profound - 20%, moderate - 16%). Individuals in both groups participated most often in social activities with peer friends (severe-profound - 26%, moderate - 38%). Staff members also played a more important role in social participation for persons with severe-profound mental retardation (25%).

Finally, the advice provided by parents was considered most important in making decisions for individuals in both groups (severe-profound - 43%, moderate - 56%). Staff members were identified as important when seeking advice, especially for persons with severe-profound levels of mental retardation (severe-profound - 43%, moderate - 27%).

Table 26 provides a descriptive summary of the personal core network for former students. This network includes only those people most likely to be sources of rewarding interactions for socializing, discussing personal problems, or sharing leisure time. The majority of individuals in the personal core network of those in the severe-profound group were female (59%), single (62%), with an average age of 31.8. Most individuals in the network were staff members (34%) and were nonhandicapped (70%). Individuals in the core network knew each other an average of 9.4 years, lived approximately 32.5 miles apart, and had contact with each other on a daily (61%) or weekly (12%) basis.

The personal core network for former students with moderate levels of mental retardation also is shown in Table 26. Similar to those in the severe-profound group, the majority of individuals involved in the personal core network of those with moderate retardation were female (55%), single (63%), with an average age of 31.3 years. Most individuals were considered friends (26%) or staff members (21%), did not have a disability (64%), and knew each other for an average of 9.3 years. Individuals in the core network lived approximately 23 miles away but usually interacted with the person on a daily (44%) or weekly (15%) basis.

Table 25

Personal Core Network

	Talk With About Personal Matters		Talk With When Angry or Upset		Best Friend		Participate In Social Activities		Important Source of Advice	
	Sev-Pro	Moderate	Sev-Pro	Moderate	Sev-Pro	Moderate	Sev-Pro	Moderate	Sev-Pro	Moderate
Parent	10(29%)	23(49%)	10(29%)	17(38%)	7(16%)	1(2%)	5(9%)	3(6%)	19(43%)	27(56%)
Neighbor	-- --	-- --	-- --	-- --	-- --	2(5%)	-- --	-- --	-- --	-- --
Sibling	-- --	1(2%)	-- --	1(2%)	1(2%)	3(7%)	6(11%)	4(8%)	-- --	1(2%)
Other Relative	2(6%)	-- --	2(6%)	-- --	2(5%)	-- --	2(4%)	-- --	2(5%)	-- --
Housemate	-- --	1(2%)	-- --	1(2%)	-- --	-- --	1(2%)	2(4%)	-- --	-- --
Roommate	1(3%)	1(2%)	-- --	2(4%)	5(11%)	5(12%)	4(8%)	7(15%)	-- --	-- --
Co-worker	-- --	-- --	-- --	-- --	1(2%)	1(2%)	2(4%)	1(2%)	2(5%)	-- --
Staff	16(46%)	13(28%)	19(54%)	18(40%)	8(18%)	2(5%)	13(25%)	5(10%)	19(43%)	13(27%)
Volunteer	-- --	-- --	-- --	-- --	1(2%)	-- --	1(2%)	2(4%)	-- --	-- --
Teacher	-- --	-- --	-- --	-- --	1(2%)	-- --	-- --	-- --	-- --	-- --
Friend	-- --	3(6%)	-- --	1(2%)	11(25%)	17(40%)	14(26%)	18(38%)	-- --	-- --
Romantic Friend	2(6%)	1(2%)	1(3%)	1(2%)	2(5%)	7(17%)	2(4%)	5(10%)	----	1(2%)
No One	21(38%)	4(8%)	21(38%)	5(10%)	11(20%)	8(16%)	3(5%)	2(4%)	12(21%)	2(4%)
Other	4(11%)	4(9%)	3(9%)	4(9%)	5(11%)	4(10%)	3(6%)	1(2%)	2(5%)	6(13%)

Table 26

Summary of Core Network Characteristics

Characteristic	Level of Mental Retardation: Severe-Profound		Moderate	
Gender				
Female	113	(59%)	111	(55%)
Male	79	(41%)	91	(45%)
Age				
Mean	31.8		31.3	
Marital Status				
Single	122	(62%)	120	(63%)
Married	68	(34%)	60	(32%)
Other	6	(30%)	9	(5%)
Role Relation				
Friend	33	(18%)	53	(26%)
Staff	61	(34%)	43	(21%)
Parent	18	(9%)	--	--
Sibling	15	(8%)	--	--
Roommate	15	(8%)	--	--
Other	55	(32%)	87	(44%)
Disabled				
Yes	58	(30%)	72	(36%)
Proximity				
Miles (Median)	32.5		23.0	
Years Known				
Mean	9.4		9.3	
Frequency of Contact				
Daily	117	(61%)	89	(44%)
Weekly	22	(12%)	31	(15%)
2 Times/Week	--	--	28	(14%)
Monthly	13	(7%)	27	(13%)
Bi-monthly	13	(7%)	--	--
Other	26	(13%)	26	(14%)

Leisure Activities

Respondents were shown a list of leisure activities and asked to identify those in which the former students had participated during the past seven days. The entire list of activities and the percentages participating in each are shown in Table 27. The most frequent activities identified for the sample with severe-profound mental retardation and for the sample with moderate mental retardation were: watching TV or listening to the radio (98% and 96%, respectively), going shopping (70% and 88%, respectively), going out to eat (77% and 67%, respectively), and sitting and resting (75% in the sample with severe-profound mental retardation, but only 53% in the other sample). Respondents also were asked to identify the activity in which the former students spent most of their time. For both groups, the passive activity of watching TV or listening to the radio was mentioned most often (64% and 65%, respectively).

Respondents who thought the former students would like to participate in more than their current activities were asked to give reasons they were unable to do the activities. Table 28 shows that the primary reason was that there was no one who could take the person to the activity (33% in the group with severe-profound mental retardation, and 36% in the group with moderate mental retardation). In the group with moderate mental retardation, the reason listed next in frequency was lack of transportation (27%); this reason was listed by only 3% of the respondents for the group with severe-profound mental retardation.

Respondents also identified from the list those activities that the former students had skills to do independently, without help or supervision (see Table 29). Watching television and/or listening to the radio was the most common response for both groups. None of the other activities listed for persons with severe-profound levels of mental retardation approached the participation rate found for individuals with moderate mental retardation. Other frequent activities listed for individuals with moderate levels of mental retardation were working on hobbies, and visiting friends.

Respondents also were asked about the extent to which the former students would initiate a leisure activity by calling or asking a friend to participate. Table 30 provides a summary of the types of leisure activities in which the former students would initiate social participation. Going out to eat or going to the park for a walk were the most frequently named activities for individuals with severe to profound levels of mental retardation. Rates of participation generally were lower for persons with severe-profound levels of mental retardation than for persons with moderate levels of mental retardation. Individuals with moderate levels of mental retardation initiated more activities overall, with the most common being going to a movie, concert or play.

Table 31 is a summary of who makes leisure choices and who plans and implements leisure activities for the former students. In making choices of leisure activities, the former students themselves seem to make the majority of decisions; however, the sample with severe and profound levels of mental retardation had a much lower percentage than the sample with moderate retardation (37% vs 71%). The next most common response for both groups was staff from home residences (33%, 19%). Parents seemed to be more important in making choices for the group with severe-profound mental retardation (22% vs 8%). When respondents were asked who plans and carries out leisure activities for the former students, the most common response for the group with severe-profound mental retardation was staff from home residences (39%); for the sample with moderate levels of mental retardation, it was the individuals themselves (50%).

Table 27

Leisure Activities

Activity[a]	Level of Mental Retardation: Severe-Profound		Moderate	
Watch TV, Listen to radio	55	(98%)	47	(96%)
Go shopping	39	(70%)	43	(88%)
Do hobbies	16	(29%)	26	(53%)
Do sports	25	(45%)	16	(39%)
Attend sports	7	(13%)	7	(14%)
See movie, play, concert	20	(36%)	23	(47%)
Go to party, dance	24	(43%)	19	(39%)
Visit friend	24	(43%)	33	(67%)
Go to meeting	9	(16%)	8	(16%)
Go to religious service	21	(38%)	20	(41%)
Go out to eat	43	(77%)	33	(67%)
Go to park, walk	37	(66%)	35	(71%)
Play cards, games	26	(46%)	24	(49%)
Sit resting	42	(75%)	26	(53%)
Other	28	(50%)	30	(61%)
Total	56		49	

[a]Percentages in parentheses are based on total numbers. For one subject in the group with moderate mental retardation, information was unknown ("Don't know").

Table 28

Why Subjects are Unable to Do Some Activities

Reason[a]	Level of Mental Retardation: Severe-Profound		Moderate	
Lack of transportation	1	(3%)	9	(27%)
Lack of money	3	(10%)	6	(18%)
Activity not available	6	(20%)	6	(18%)
Lack of skills to participate	3	(10%)	7	(21%)
Lack of time	9	(30%)	5	(15%)
Social or behavior problem	4	(13%)	4	(12%)
No one to take subject	10	(33%)	12	(36%)
Other	7	(23%)	2	(6%)
Medical/physical reason	3	(10%)	--	--
Total	30		33	

[a]Percentages in parentheses are based on number of subjects for whom respondents believed they would like to do certain activities that they do not do.

Table 29
Activities in Which Subject Can Independently Participate

	Level of Mental Retardation	
Activity[a]	Severe-Profound	Moderate
Listen to Radio, Watch TV	46 (82%)	48 (96%)
Go shopping	8 (14%)	23 (46%)
Do hobbies	12 (21%)	36 (72%)
Do sports	10 (18%)	24 (48%)
Attend sports	8 (14%)	19 (38%)
See movie/play/concert	13 (23%)	23 (46%)
Go to party/dance	11 (20%)	25 (50%)
Visit friend	17 (30%)	34 (68%)
Go to meeting	7 (13%)	18 (36%)
Go to religious service	10 (18%)	25 (50%)
Go out to eat	9 (16%)	27 (54%)
Go to park/walk	21 (38%)	32 (64%)
Play cards/games	17 (30%)	32 (64%)
Sit resting	32 (57%)	32 (64%)
Other	11 (20%)	15 (30%)
Total	56	50

[a]Percentages in parentheses are based on total numbers.

Table 30

Activities That Subjects Initiated Participation With a Friend

	Level of Mental Retardation	
Activity[a]	Severe-Profound	Moderate
Listen to radio, watch TV	10 (18%)	7 (14%)
Go shopping	11 (20%)	11 (22%)
Do hobbies	5 (9%)	1 (2%)
Do sports	6 (11%)	6 (12%)
Attend sports	4 (7%)	7 (14%)
See movie/play/concert	12 (21%)	18 (36%)
Go to party/dance	7 (13%)	10 (20%)
Visit friend	8 (14%)	15 (30%)
Go to meeting	4 (7%)	1 (2%)
Go to religious service	3 (5%)	4 (8%)
Go out to eat	13 (23%)	16 (32%)
Go to park/walk	13 (23%)	10 (20%)
Play cards/games	9 (16%)	7 (14%)
Sit resting	3 (5%)	--
Other	--	--
Total	56	50

[a]Percentages in parentheses are based on total numbers.

Table 31

Leisure Choices/Independence[a]

	Level of Mental Retardation			
	Severe-Profound		Moderate	
	Who Decides?	Who Plans?	Who Decides?	Who Plans?
Parent	12 (22%)	14 (26%)	4 (8%)	6 (13%)
Staff	18 (33%)	21 (39%)	4 (19%)	15 (31%)
Friend	1 (22%)	1 (2%)	--	--
Romantic Friend	--	--	1 (2%)	1 (2%)
Self	20 (37%)	14 (26%)	34 (71%)	24 (50%)
Other	3 (6%)	4 (7%)	--	2 (4%)
Total	56	56	50	50

[a]Percentages in parentheses are based on total numbers.

Citizenship

Three aspects of citizenship are presented in Table 32: voting status, income tax payments, and trouble with law or police. Only 16% of the formers students with severe-profound mental retardation were registered voters; 9% were taxpayers. Of the individuals with moderate mental retardation, 34% were registered voters and 32% were taxpayers. While 12% of the group with moderate mental retardation had been in trouble with the law, no former student in the other group had problems with the law or police.

Support Programs

Government support payments. The frequency with which former students received Social Security Insurance (SSI), Disability Insurance Benefits, and other support is shown in Table 33. Only 2% of the individuals with severe-profound mental retardation and 10% of the individuals with moderate mental retardation were not receiving some kind of governmental support payment. In the group with severe-profound mental retardation, 91% received SSI (with an average amount of $178.95), and in the group with moderate mental retardation, 64% received this type of support (with an average amount of $143.44). No one in the sample with moderate mental retardation and only one person in the sample with severe-profound mental retardation received Disability Insurance Benefits ($50.00). About half of the people in each group received other payments, with an average amount of about $105 for those with severe-profound mental retardation, and about $198 for those with moderate mental retardation.

Medicare, Medicaid, and Food Stamps. The frequency of use of Medicare, Medicaid, and food stamps is presented in Table 34. Medicaid was used most often (61% of the sample with severe-profound mental retardation, and 51% of the sample with moderate mental retardation), and Medicare was used by 18% in each group. Only one person, in the group with severe-profound mental retardation, received food stamps.

Living Skills

Respondents were asked about several aspects of the former students' living skills, including shopping, paying bills, banking, transportation, and telephoning.

Shopping, and paying bills. Table 35 shows that 63% of the individuals with severe-profound mental retardation shopped for themselves, with 25% paying the salesperson by themselves. In the group with moderate mental retardation, 90% shopped by themselves and 67% paid the salesperson by themselves. A higher percentage of individuals in the group with severe-profound mental retardation (82%) than in the group with moderate mental retardation (59%) did not receive bills that they needed to pay. For the subjects who did receive bills, only 20% in the group with moderate mental retardation paid the bills by themselves.

Banking Skills. Table 35 also summarizes information about the banking related skills of the former students. Fewer persons in the group with severe-profound mental retardation (41%) than in the group with moderate mental retardation (70%) had savings accounts. From these, only 9% in the first group used the accounts on their own, compared to 31% in the second group. Few persons in either group had checking accounts (11% and 20%), and of these, only half of the individuals in the group with moderate mental retardation (n=5) and none in the group with severe-profound mental retardation used the checking accounts on their own.

Table 32

Citizenship Characteristics[a]

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Registered voter	9	(16%)	17	(34%)
Income tax payer	5	(9%)	16	(32%)
Trouble with law/police	--	--	6	(12%)
Total	56		50	

[a]Percentages in parentheses are based on total numbers.

Table 33

Frequency of Government Support Payments and Amenities

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Received SSI	51	(91%)	32	(64%)
Amount ($)				
M	178.95		143.44	
SD	132.95		126.7	
Range	15 - 400		15 - 442	
N	47		27	
Receive Disability	1	(2%)	--	--
Amount	$ 50.00			
Received Welfare	--	--	1	(2%)
Amount			$104.00	
Received Other	29	(52%)	23	(46%)
Amount ($)				
M	$104.50		$197.74	
SD	$136.78		$272.49	
Range	$10 - $464		$15 - $1200	
N	24		19	
Received None	1	(2%)	5	(10%)
Unknown	1	(2%)	--	--

Table 34

Use of Medicare, Medicaid and Food Stamps

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Medicare	10	(18%)	9	(18%)
Medicaid	34	(61%)	25	(51%)
Neither	8	(14%)	15	(30%)
Don't know	2	(4%)	--	--
Both	--	--	--	--
Food stamps	1	(2%)	--	--
Total	56		50	

[a]Percentages in parentheses are based on total numbers.

Table 35

Shopping, Paying Bills and Banking Skills

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Shopping and Paying Bills[a]				
Shops for self	35	(63%)	45	(90%)
Pays salesperson	9	(25%)	30	(67%)
Has bills	11	(20%)	21	(42%)
Pays bills	--	--	4	(20%)
Banking Skills[a]				
Has savings account	23	(41%)	35	(70%)
Uses savings account by self	2	(9%)	11	(31%)
Has checking account	6	(11%)	10	(20%)
Uses checking account by self	--	--	5	(50%)

[a]Percentages in parentheses in "Pays Salesperson" are based on total subjects that "shop for self." Percentages in "Pays Bills" are based on number of subjects that "has bills." A similar procedure applies for banking skills percentages.

Transportation and telephone skills. Table 36 summarizes information about transportation and telephone skills. Almost half of the persons in each group (45% and 42%) usually were transported by a parent, friend or house parent. While about half of the sample with severe-profound mental retardation (48%) used special transportation in a van, car, school bus, or special bus, only 18% of the sample with moderate mental retardation did so. A public bus was used only by 2% of the group with severe-profound mental retardation, but by 22% of those in the other group. One individual in the group with severe-profound mental retardation had a driver's license. With respect to telephone skills, 90% of the sample with moderate mental retardation dialed the telephone, while only 25% of the sample with severe-profound mental retardation did so.

ICAP Results

Functional limitations. Information related to functional limitations of the former students at the time of the follow-up study is summarized in Table 37. All but three persons (95%) in the group with severe-profound mental retardation were able to walk. Most of the sample members had no seizures or controlled seizures (91% of the group with severe-profound mental retardation and 96% of the group with moderate mental retardation). Most of the sample members needed medical care less than monthly (91% and 94%, respectively), and approximately 5% of each group needed medical care monthly. Approximately half of the persons in each group did not need prescribed medication. A slightly higher proportion needed prescribed medication in the severe-profound group than in the group with moderate retardation for the following reasons: health problems, mood, anxiety, sleep, behavior, or epilepsy and seizures. Comparisons of the two groups did not reveal statistically significant differences on need for health care, $t(101) = .098$, or physical complications, $t(103) = 1.88$.

Adaptive behavior. Table 38 is a summary of selected ICAP items that reflect common functional behaviors, generally increasing in level of complexity going down the list in the table; also included are summary W-scores from the ICAP. All the behaviors are done fairly well or very well by a higher percentage of persons with moderate mental retardation than by persons with severe-profound mental retardation. All (100%) of the persons with moderate mental retardation were capable of independent toileting, with 82% of the individuals in the severe-profound group showing independence in this behavior; 94% of the individuals with moderate mental retardation could say 10 words in a sentence intelligibly, but only 59% of the individuals with severe-profound mental retardation could do so; and while 58% of the those with moderate mental retardation could prepare a meal by themselves, only 11% of those with severe-profound mental retardation could do this activity. It should be noted that the first six behaviors are performed independently by the majority of individuals with severe-profound mental retardation, while the last four behaviors (i.e., more complex behaviors) are performed by less than 11% of the group.

Four summary adaptive scores obtained from the ICAP are Motor Skills, Personal Skills, Social Skills, and Community Skills (see Table 38). Scores on these domains revealed considerable differences between individuals with severe-profound mental retardation and individuals with moderate mental retardation: Motor Skills - $t(104) = 8.04$, $p < .001$; Personal Skills - $t(104) = 7.70$, $p < .001$; Social Skills - $t(104) = 8.52$, $p < .001$; Community Skills - $t(104) = 9.43$, $p < .001$. The ICAP's Broad Independence Score reflects performance on all items in the adaptive behavior section. The average Broad Independence W-score for individuals with severe-profound mental retardation was about 452, while the average for the group with moderate mental retardation was about 503; the difference between these scores was statistically significant, $t(104) = 9.59$, $p < .001$.

Problem behaviors. Table 39 is a summary of selected ICAP items that reflect at least moderately serious problems in certain problem behavior categories. The behavior exhibited by more individuals at a moderate level in the severe-profound group was uncooperativeness (25%,

Table 36

Transportation and Telephone Skills

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Transportation Used[a]				
Driven by parents/friends/ house parent	25	(45%)	21	(42%)
Van, school bus, special bus	27	(48%)	9	(18%)
Taxi	--	--	1	(2%)
Public bus	1	(2%)	11	(22%)
Walk or bike	3	(5%)	7	(14%)
Drive self	--	--	--	--
Other	--	--	1	(2%)
Don't know	--	--	--	--
Has driver's license[a]	1	(2%)	--	--
Dials telephone[a]	14	(25%)	44	(90%)
Total	56		50	

[a]Percentages in parentheses are based on total numbers.

Table 37

Functional Limitations in Each Group

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Mobility				
Walks	52	(95%)	50	(100%)
Usually in wheelchair	3	(5%)	--	--
Seizure Frequency				
None or controlled	51	(91%)	48	(96%)
Less than monthly	1	(2%)	2	(4%)
Monthly	2	(4%)	--	--
Weekly or more often	2	(4%)	--	--
Medical Care Needs				
Less than monthly	50	(91%)	46	(94%)
Monthly	3	(5%)	2	(4%)
Weekly	2	(4%)	1	(2%)
Prescribed Medication[a]				
None	28	(50%)	29	(58%)
For health problem	12	(21%)	7	(14%)
For mood, anxiety, sleep, or behavior	8	(14%)	5	(10%)
For epilepsy, seizures	11	(20%)	5	(10%)
For other reasons	6	(11%)	7	(14%)
Unknown	--	--	--	--

[a]Percentages in parentheses are based on total numbers. Percentages under prescribed medication may total more than 100 because more than one reason could be designated to a single subject.

Table 38

Adaptive Behavior Summary

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Behavior[a]				
Imitates actions	52	(93%)	49	(98%)
Says 10 words	33	(59%)	47	(94%)
Independent toileting	46	(82%)	50	(100%)
Says 3-4 word sentences	31	(55%)	46	(92%)
Dresses self completely	41	(73%)	48	(96%)
Crosses street alone	18	(32%)	46	(92%)
Purchase/count $5 change	3	(6%)	19	(38%)
Writes notes/letters	5	(9%)	30	(60%)
Budgets money for work	2	(4%)	18	(36%)
Plans and prepares meals	6	(11%)	29	(58%)
Motor Skills				
M	442.1		497.6	
SD	39.3		27.4	
Personal Skills				
M	474.3		517.5	
SD	36.6		16.1	
Social Skills				
M	442.8		495.6	
SD	33.6		29.6	
Community Skills				
M	448.8		502.9	
SD	34.3		22.8	
Broad Independence Score (W-units)				
M	452.1		503.5	
SD	33.6		18.6	
Broad Independence Score (Age Equivalent)				
M	60.8		135.6	
SD	37.5		40.2	
Range	9 - 187		58 - 276	

[a]Percentages in parentheses are based on total numbers.

compared to 12% in the other group), and the behavior exhibited by a higher percentage of subjects in the group with moderate mental retardation was being socially offensive (18%, compared to 14% in the other group). Similar percentages of subjects in each group (14% or less) exhibited moderate problems in each of the other problem behaviors.

The average score for each group on maladaptive behaviors is indicated by the General Maladaptive Index (see Table 39). This index shows a lower average score (i.e., more serious behavior problems) in the group with severe-profound mental retardation (-13.8) than in the group with moderate mental retardation (-8.9), $t(104) = 2.34$, $p < .05$.

Service levels. The ICAP also provides a score that predicts the level of service (care, support and/or supervision) a client needs, ranging from 1 (total care/support) to 9 (independent). These scores and the percentages of subjects in each group falling at each service level are shown in Table 40. (Individual scores also can be represented on a scale of 0 to 100.) Some individuals in the group with severe-profound mental retardation (but none in the group with moderate mental retardations) required more than regular care or support, ranging from 16% needing less than extensive care or support to 7% needing total care. Regular care or support was needed by less than 20% in each group, but by a greater percentage of individuals with severe-profound mental retardation than by individuals with moderate mental retardation. Limited care or support was needed by less than 15% of the subjects in the first group, and by about 30% of the subjects in the second group. While only one subject with severe-profound mental retardation showed no need of any care or support, or independent living skills, 20% of the subjects in the group with moderate mental retardation showed this independence.

The calculated average service score for the group with severe-profound mental retardation (51.9) translates to a service level of 5, which indicates a need for regular care or support. The average service score for the group with moderate retardation (78.2) translates to 7, indicating a need for limited care or support. Statistical tests were significant for both service score, $t(104) = 8.04$, $p < .001$, and service level, $t(104) = 7.91$, $p < .001$.

Comparisons

Because of the large number of outcome variables included in this study, only selected ones were subjected to statistical analysis. The following 21 variables were examined as a function of level of mental retardation, gender, and age:

Employment rate	Special friends
Type of job (2 aspects)	Contact with people without handicaps
Income	Voting participation
Day program participation	Tax payer rate
Type of day program	Shopping skills (2 aspects)
Who found day program	Banking skills (4 aspects)
Living arrangement	Transportation use
Who found living arrangement	Telephone use

A summary of findings is provided in Table 41. These are described briefly in the following paragraphs.

Level of mental retardation. Comparisons were made between the sample with moderate mental retardation and the sample with severe-profound mental retardation. The two groups of subjects were not significantly different in terms of either age or gender distribution. Employment rates did differ for the two groups, $x^2(1) = 11.5$, $p < .001$. The types of jobs (in categories of Insert

Table 39
Maladaptive Behavior Summary

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Behavior[a]				
Hurts self	5	(9%)	2	(4%)
Hurts others	8	(14%)	3	(6%)
Damages property	4	(7%)	1	(2%)
Disruptive	8	(14%)	7	(14%)
Unusual/repetitive	4	(7%)	3	(6%)
Socially offensive	8	(14%)	9	(18%)
Withdrawn or inattentive	8	(14%)	6	(12%)
Uncooperative	14	(25%)	6	(12%)
General Maladaptive Index				
M	-13.8		-8.9	
SD	12.1		8.6	
Range	-42 - 0		-35 - 0	

[a]Percentages in parentheses are based on total numbers.

Table 40
ICAP Service Levels

	Level of Mental Retardation			
	Severe-Profound		Moderate	
Service Level[a]				
1. total care/support	4	(7%)	--	--
2.	6	(11%)	--	--
3. extensive care/support	5	(9%)	--	--
4.	9	(16%)	--	--
5. regular care/support	10	(18%)	4	(8%)
6.	10	(18%)	7	(14%)
7. limited care/support	7	(13%)	14	(28%)
8.	4	(7%)	15	(30%)
9. independent	1	(2%)	10	(20%)
Service Score				
M	51.9		78.2	
SD	20.5		11.2	
Range	3 - 91		52 - 95	

[a]Percentages in parentheses are based on total numbers.

Table 41

Summary of Statistical Comparisons for Selected Variables

Variable	Comparison Variable: Level of Mental Retardation	Gender	Age
Employment rate	**	--	--
Type of job - 1	**	--	--
Type of job - 2	***	--	--
Income	***	--	--
Day program participation	***	--	--
Type of day program	**	--	--
Who found day program	--	--	--
Living arrangement	**	--	--
Who found living arrangement	--	--	--
Special friends	*	--	--
Contact with people without handicaps	*	--	--
Voting participation	*	--	--
Taxpayer rate	**	--	*
Shopping skill - 1	**	--	--
Shopping skill - 2	***	--	--
Banking skill - 1	**	--	--
Banking skill - 2	--	--	--
Banking skill - 3	--	--	--
Banking skill - 4	--	--	--
Transportation use	***	--	--
Telephone	***	--	--

*p < .05 **p < .01 *p < .001

"provides special services", "competitive", "program for hiring handicapped", and "don't know") were significantly different, $x^2(3) = 15.86$, $p < .01$. Subjects with moderate retardation were distributed approximately equally between a special services job and a competitive job (with a few others in the other two categories), while subjects with severe-profound retardation were almost entirely in special services jobs. Differences also were found for the second scheme of job classification, in which the job was regular, in a sheltered workshop, in a work/day activity center, volunteer, or other, $x^2(4) = 28.90$, $p < .001$. For persons with moderate retardation, most were in either regular jobs or jobs in sheltered workshops. For persons with severe-profound retardation, most were in work/day activity centers, followed by sheltered workshops. Weekly income also differed significantly for the two groups, $t(64) = 5.33$, $p < .001$. Subjects with moderate retardation earned significantly more overall ($2.70) compared to subjects with severe-profound mental retardation ($.77). Of course, this finding is biased by the types of jobs. When analyses were conducted for regular jobs, sheltered jobs, and activity center jobs separately, significant differences were not found.

Day program participation also differed for the two groups, $x^2(1) = 15.29$, $p < .001$. A smaller percentage of subjects with severe-profound mental retardation than with moderate mental retardation was in day programs. For those in day programs, the type of day program also differed significantly, $x^2(4) = 13.32$, $p < .01$. Individuals with severe-profound retardation were almost exclusively in Day Activity Centers, while those with moderate retardation were almost equally spread between sheltered programs and Day Activity Centers. Significant differences were not found for the type of person who helped find the current day program.

Living arrangements were categorized as independent, group home with 6 or fewer residents, group home with more than 6 residents, and living with family or foster family. A significant difference was found for this variable, $x^2(3) = 12.17$, $p < .01$. Most persons with severe-profound mental retardation were in either their home or a group home with more than 6 residents, while persons with moderate retardation were primarily living at home with family members, with others spread across the other categories. Significant differences were not found for the type of person who helped find the living arrangement.

The percentage of subjects who had special friends also differed significantly for the two groups, $x^2(1) = 5.96$, $p < .05$. Special friendships were reported with greater frequency for those with moderate retardation than for those with severe-profound retardation. A similar significant difference was found for the percentages having regular contact with people without disabilities, $x^2(1) = 4.48$, $p < .05$.

Differences were found in some citizenship characteristics between former students with severe-profound retardation and former students with moderate retardation, indicating greater participation by those with moderate retardation, for both voting, $x^2(2) = 6.27$, $p < .05$, and tax paying, $x^2(2) = 9.45$, $p < .01$. Similarly, differences were found favoring greater participation by subjects with moderate retardation on shopping for self, $x^2(1) = 9.36$, $p < .01$, and paying for purchases by self, $x^2(1) = 12.29$, $p < .001$. Only one of the banking skills (has savings account) showed a significant difference, again favoring those with moderate retardation, $x^2(1) = 7.79$, $p < .01$. The failure to find differences on the other variables (uses savings account, has checking account, uses checking account) very likely was due to the small numbers for those variables.

Differences also were identified for the transportation variable, $x^2(5) = 21.00$, $p < .001$, with individuals with severe-profound mental retardation almost exclusively being driven by someone or riding a special van or bus, while individuals with moderate mental retardation were spread out more across the various options, including public bus transportation and walking or riding a bike. Use of the telephone also differed significantly, $x^2(1) = 41.79$, $p < .001$, favoring greater use by individuals with moderate mental retardation.

Gender. Male and female subjects were equally distributed between the two levels of mental retardation. However, their average ages were found to differ significantly, $t(104) = 2.68$, $p < .01$, with females slightly older (297 mos) than males (287 mos). The practical significance of this difference is questionable. No significant differences were found for any of the primary variables examined as a function of gender. When income was analyzed separately for each type of job, a significant difference was found between males ($.54) and females ($1.14), favoring females, who had sheltered jobs.

Age. When sample members were divided into two groups based on age: those less than 25 years versus those 25 years or older. As indicated above, these two groups did differ in gender, $x^2(1) = 6.83$, $p < .01$, with a greater proportion of males in the younger group. Only one statistically significant difference was found across all variables tested (for the tax payer rate), bringing it into question. The low level of significance, $x^2(2) = 7.45$, $p < .05$, suggests that the finding of greater percentage of tax payers in the younger group (27% vs 10%) may be unstable.

Discussion

This follow-up study was undertaken to collect post-school information on an additional sample of former students with moderate to severe-profound mental retardation. From studies conducted recently to determine post-school outcomes for students in special education programs, we know that environmental variables play a significant part in influencing outcomes and community adjustment (Bruininks, Lewis, & Thurlow, 1988). As a result of the apparent environment-specific nature of outcomes, Edgar (1988) has argued that it is important for the field of special education to continue conducting follow-up studies.

The more recent studies of special education, particularly for individuals with moderate to severe mental retardation, have been conducted in different locations across the country, from the west coast (Edgar, 1987; Edgar & Levine, 1986) to the east coast (Hasazi et al., 1985; Wehman et al., 1985), in the south (Fardig et al., 1985), and sometimes in between (Mithaug et al., 1985). Representation of the midwest in these studies has been limited, despite the knowledge that there may be significant differences among states in the delivery of special education services (e.g., Rose, 1988; Thurlow, Ysseldyke, & Wotruba, 1989; U.S. Department of Education, 1988; Ysseldyke, Thurlow, & Wotruba, in press). We know that unemployment rates, for example, vary from one part of the country to another; it would not be unreasonable to expect that unemployment for individuals with disabilities might also vary in relationship to overall rates.

This study represented a third follow-up data collection effort within a single metropolitan area in the midwest. Bruininks, Thurlow, Lewis, and Larson (1988) examined outcomes for students with mild handicaps in a suburban community in the metropolitan area. Also, studied at the same time were students with severe emotional disabilities (Thurlow, Larson, & Bruininks, 1989). Outcomes for individuals with moderate to severe mental retardation, as well as a small sample of former students with mild mental retardation, were examined in an urban school district in the same metropolitan area. The differences among the urban findings and the suburban findings were confounded with degree of disability, thus confusing possible comparisons of findings. With this third data set, findings were examined from a sample of individuals with moderate to severe mental retardation from a suburban area.

What does this new data set indicate about post-school outcomes for individuals with moderate to severe levels of mental retardation? A primary finding is that there are significant differences in outcomes for individuals as a function of their level of mental retardation. Differences were found in employment outcomes, day program participation, living arrangements, friendships, citizenship variables, and living skills. Of the variables tested, only those indicating who found a

placement (day program or living arrangement) and those with very small numbers of subjects (uses savings account, has checking account, uses checking account) were not significantly different for individuals with moderate mental retardation compared to individuals with severe mental retardation. These findings are in contrast to those of Thurlow, Bruininks, and Lange (1989), where the only differences between individuals with moderate and severe mental retardation were found for unemployment rate, transportation skills, and telephone use.

No differences were found as a function of gender for former students of the suburban school district. This is in agreement with findings from the urban school district in the same metropolitan area, although gender in that study was confounded with age, with females slightly older than males. The same potential confounding existed in the current sample, with females slightly older than males.

Differences as a function of age level also were explored in this study. Comparisons of individuals 25 years or older with those less than 25 years of age revealed only one statistically significant difference: a greater percentage of individuals in the younger group were tax payers (27%) than in the older group (10%). The practical significance of this difference may be questionable, as well as confounded with the greater representation of females in the older group.

Many of the outcomes and characteristics found for the individuals in the current study were generally positive. Over 70% of all former students in this sample experienced some degree of employment, although those with full-time employment remained below 30%. Differences between individuals with severe-profound mental retardation and those with moderate mental retardation (72% vs 92% for employment; 18% vs 26% for full-time employment) did not reflect the greater discrepancy evident during high school in employment (4% vs 44% during summer; 7% vs 34% during school year).

Related to post-school outcomes and school services is the relative lack of involvement of external agencies in the lives of these individuals with moderate and severe levels of mental retardation. For example, when asked about the sources of help in finding jobs or day programs, informed respondents indicated primarily schools and related school personnel (counselors, social workers). Involvement of external agencies, such as rehabilitation services, vocational services, and advocate agencies was minimal. The Day Activity Center was the only agency that had much involvement in helping individuals look for a job. The lack of involvement by external agencies is consistent with other research indicating little cooperation between schools and adult agencies (Hardman & McDonnell, 1987; Hasazi et al., 1985). The suggestion that external community agencies be involved during transition planning did not appear to be heeded for the individuals in this study. Analysis of the list of people (by role) at the time of writing the final IEP indicated that relatively few vocational, rehabilitation, and day service personnel were present at these meetings. Clearly, there is much distance to cover before transition planning practices reflect recommendations. Currently, the lack of cooperative programming involving schools and external agencies in the transition of youth from school to work constitute a significant obstacle to these youngsters' employment (Rusch, Mithaug, & Flexer, 1986).

Extensive data were collected on the functional limitations (e.g., health, mobility), adaptive behavior, problem behavior, and extent of needed support for the samples. Based on the generally adaptive characteristics of the samples, it appears that many sample members were capable of much more productive levels of employment than their current levels of productivity. Sufficient evidence now exists from a number of studies that persons with moderate to severe mental retardation are capable of supported, semi-independent, and even competitive levels of employment (e.g., Bellamy, Horner, & Inman, 1979; Rusch & Mithaug, 1980; Wehman, 1981; Wehman & Hill, 1981). The underemployment levels of these samples is likely traceable to inadequacies in current

training programs, employment placement, and service coordination strategies. Extensive efforts now are underway in Minnesota to address these concerns (e.g., Minnesota Supported Employment Project, 1989; Minnesota Technical Assistance Resource Network on Supported Employment, 1989).

Past research indicated that people with mental retardation usually have few friends or significant relationships, and that social isolation is a major problem for them (Edgerton & Bercovici, 1976; Schalock & Harper, 1978; Stanfield, 1973). Information obtained in this study on the friendships and social networks of individuals out of school is among the more extensive available. While over 60% of individuals with severe-profound mental retardation and nearly 85% of individuals with moderate mental retardation were indicated to have special friends, primarily peers, few of the friends were individuals without handicaps. No friends at all were identified for 20% of those with severe-profound mental retardation and 16% of those with moderate mental retardation. The core personal networks for individuals with severe-profound mental retardation consisted primarily of staff members, while for individuals with moderate mental retardation the network primarily included parents. For advice, individuals with moderate retardation primarily went to parents. Individuals with severe-profound retardation went almost equally to parents and staff.

The former students in this study participated in a wide variety of leisure activities. However, the activity in which both groups spent the most time was passive in nature and required no social interaction (watching TV and/or listening to the radio). A need is evident for a focus on leisure skill acquisition for young adults with moderate to profound mental retardation. Similar to individuals with mild mental retardation (Crapps, Langone, & Swaim, 1985; Katz & Yekutiel, 1974), these young adults have an abundance of free time and few leisure skills in their repertoire.

An essential component of the functional curriculum for every student with mental retardation is training in leisure and recreation skills. These skills must go far beyond a sport or hobby. In addition to learning a leisure skill itself, individuals with mental retardation need training in how to plan the activity, how to assess the community, and how to implement a leisure choice independently (Wehman & Schleien, 1981).

The need for including leisure choices in educational curricula also was evident. Making leisure choices must expand beyond the practice of giving the individual two leisure choices that are available and convenient for the staff person, caregiver, or family member. The lack of an opportunity to make leisure choices was especially prevalent for individuals with severe and profound mental retardation, which may be linked to the fact that these individuals generally have few leisure skills, making the possibility of choices more difficult for others to observe. While persons with moderate mental retardation had a fairly high percentage making independent leisure choices, a much lower percentage had the skills to plan and implement a leisure activity.

To enhance successful participation in the community, individuals with mental retardation must develop leisure skills that will allow them to participate independently, without help or supervision. The major barriers cited in this study were related to a lack of external resources. If individuals with mental retardation are dependent on supervision or transportation, for example, then leisure participation in the community will continue to be limited. Most often, individuals with moderate mental retardation can learn skills that permit access to independent participation in community leisure activities. However, these skills must be systematically taught and reinforced. Completely independent participation for individuals with severe or profound mental retardation may not always be possible, but leisure skill training will increase the level of participation and enhance each individual's control over his or her life.

The needs identified in this study can be met through changes in programs currently provided to individuals with mental retardation during their school years. This and other follow-up studies thus tell us not only about the post-school status of individuals, but also about their school programs.

The current study was undertaken to collect post-school information on an additional sample of former students with moderate to severe mental retardation, to merge with other data, with the end purpose being a broader analysis of critical factors in transition and implications for modifying programs and improving transition services. With the addition of this study to the others conducted in the same metropolitan area, it is now possible to merge data bases. This is the goal of a separate project (see Bruininks, Thurlow, Steffens, & Lewis, 1989).

References

Bellamy, G. T., Horner, R. H., & Inman, D. P. (1979). Vocational habilitation of severely retarded adults: A direct service technology. Baltimore: University Park Press.

Bruininks, R. H., Hill, B. K., Weatherman, R. F., & Woodcock, R. W. (1986). Inventory for client and agency planning. Allen, TX: DLM Teaching Resources.

Bruininks, R.H., Lewis, D.R., & Thurlow, M.L. (Eds.) (1988). Assessing outcomes, costs and benefits of special education programs (Project Report Number 88-1). Minneapolis: University of Minnesota, Department of Educational Psychology, University Affiliated Program.

Bruininks, R. H., McGrew, K. S., Thurlow, M. L., & Lewis, D. R. (1988). Dimensions of community involvement among young adults with intellectual disabilities. Paper presented at the 8th IASSMD Congress, Dublin.

Bruininks, R.H., Thurlow, M.L., Lewis, D.R., & Larson, N.W. (1988). Post-school outcomes for students in special education and other students one to eight years after high school. In R.H. Bruininks, D.R. Lewis, & M.L. Thurlow (Eds.), Assessing outcomes, costs and benefits of special education programs (Project Report Number 88-1) (pp. 9-111). Minneapolis: University of Minnesota, Department of Educational Psychology, University Affiliated Program.

Bruininks, R. H., Thurlow, M. L., Steffens, K., & Lewis, D. R. (1989). Transition-related outcomes of former students with mental retardation up to five years after leaving school. Minneapolis: University of Minnesota, Institute on Community Integration.

Cho, E., & Schuerman, A. C. (1980). Economic costs and benefits of private gainful employment of the severely handicapped. Journal of Rehabilitation, 46(3), 28-32.

Edgar, E. (1987). Secondary programs in special education: Are many of them justifiable? Exceptional Children, 53(6), 555-561.

Edgar, E. (1988). Makers of effectiveness at the secondary level in special education. Proceedings: Research in Education of the Handicapped Project Directors' Meeting. Washington, DC: Office of Special Education Programs, U.S. Department of Education.

Edgar, E., & Levine, P. (1986). Washington state follow-up studies of post-secondary special education students in transition. Seattle: Networking and Evaluation Team, University of Washington.

Edgerton, R. B., & Bercovici, S. M. (1976). The cloak of competence: Ten years later. American Journal of Mental Deficiency, 80(5), 485-497.

Fardig, D. B., Algozzine, R. F., Schwartz, S. E., Hensel, J. W., &. Westling, D. L. (1985). Post-secondary vocational adjustment of rural, mildly handicapped students. Exceptional Children, 52(2), 115-121.

Hardman, M., & McDonnell, J. (1987). Implementing federal transition initiatives for youths with severe handicaps: The Utah community-based transition project. Exceptional Children, 53(6), 493-498.

Hasazi, S. B., Gordon L. R., & Roe, C. A. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979 to 1983. Exceptional Children, 51(6), 455-469.

Hawkins, J. A. (1984). Follow-up study of special education graduates: Class of 1983. Rockville, MD: Department of Educational Accountability. (ERIC Document Reproduction Service No. ED 256 786).

Hill, M., & Wehman, P. (1983). Cost benefit analysis of placing moderately and severely handicapped individuals into competitive employment. Journal of the Association of the Severely Handicapped, 8, 30-38.

Johnson, D. R., Bruininks, R. H., & Thurlow, M. L. (1987). Meeting the challenge of transition service planning through improved interagency cooperation. Exceptional Children, 53(6), 522-530.

Mathematica. (September, 1982). Videotape on "role and bias" and "probing." Princetone, NJ: Mathematica Policy Research.

Minnesota Technical Assistance Research Network on Supported Employment (Spring, 1989). What's working. . . in supported employment? Minneapolis: University of Minnesota, Institute on Community Integration.

Minnesota Supported Employment Project (1989). Minneapolis: University Affiliated Program and State of Minnesota Division of Rehabilitation Services.

Mithaug, D. E., Horiuchi, C. N., & Fanning, P. N. (1985). A report on the Colorado statewide follow-up survey of special education students. Exceptional Children, 51, 397-404.

Rose, T. L. (1988). Current disciplinary practices with handicapped students: Suspensions and expulsions. Exceptional Children, 55(3), 230-239.

Rusch, F. R., & Mithaug, D. E. (1980). Vocational training for mentally retarded adults: A behavior analytic approach. Champaign, IL: Research Press.

Rusch, F. R., Mithaug, D. E., & Flexer, R. W. (1986). Obstacles to competitive employment and traditional program options for overcoming these obstacles. In F. Rusch (Ed.), Competitive employment issues and strategies (pp. 7-22). Baltimore: Paul H. Brookes.

Schalock, R. L., & Harper, R. S. (1978). Placement from community-based mentally retarded programs: How well do clients do? American Journal of Mental Deficiency, 83(3), 240-247.

Stanfield, J. S. (1973). Graduation: What happens to the retarded child when he grows up? Exceptional Children, 39, 548-552.

Semmel, D. S., Cosden, M. A., & Konopak, B. (1985). A comparative study of employment outcomes for special education students in a cooperative work placement program. Paper presented at CEC, Anaheim.

Thurlow, M.L., Bruininks, R.H., & Lange, C. (1989). Assessing post-school outcomes for students with moderate to severe mental retardation (Project Report Number 89-1). Minneapolis: University of Minnesota, Department of Educational Psychology, University Affiliated Program.

Thurlow, M.L., Larson, N.W., & Bruininks, R.H. (1989). A follow-up analysis of students served in programs for emotional or behavior problems. Unpublished manuscript.

Thurlow, M. L., Ysseldyke, J. E., & Wotruba, J. W. (1989). State recommended student-teacher ratios for mildly handicapped children. Remedial and Special Education, 10(2), 37-42.

U.S. Department of Education (1988). Tenth annual report to Congress on the implementation of the Education of the Handicapped Act. Washington, DC: U.S. Department of Education.

Walls, R., Tseng, M., & Zarin, H. (1976). Time and money for clients with mild, moderate, and severe retardation. American Journal of Mental Deficiency, 80(6), 595-601.

Wehman, P. (1981). Competitive employment: New horizons for severely disabled individuals. Baltimore: Paul H. Brookes.

Wehman, P., & Hill, J. W. (1981). Competitive employment for moderately and severely handicapped individuals. Exceptional Children, 47, 338-345.

Wehman, P., Kregel, J., & Seyfarth, J. (1985). Transition from school to work for individuals with severe handicaps: A follow-up study. Journal of the Association of the Severely Handicapped, 10(3), 132-136.

Wehman, P., & Schleien, S. (1980). Assessment and selection of leisure skills for severely handicapped individuals. Education and Training of the Mentally Retarded, 15, 50-57.

Ysseldyke, J. E., Thurlow, M. L., & Wotruba, J. W. (in press). Special education student-teacher ratios for mildly handicapped children. The Journal of Special Education.